NAVIGATING ETHICS IN DESIGN EDUCATION: IDENTIFYING SUITABLE ALTERNATIVES TO HIGH-RISK PARTICIPANT RECRUITMENT

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ABSTRACT

In design education, ethical challenges arise when design research involves recruiting stakeholders for primary research. This leads to project delays due to increased approval times, suitability of research topics, qualifications of the researcher, or additional ethics committee approvals. As such, many undergraduate design projects may not be compliant with university ethics procedures. This study proposes a framework that assists design researchers in identifying suitable alternatives to engaging stakeholders, especially those considered vulnerable, thereby keeping their research within less complicated ethical boundaries.

Ethics applications from a science and engineering research ethics committee, and their feedback were reviewed for instances of vulnerable participant recruitment and further clarification requests. Product design graduates were interviewed to understand their stakeholder requirements, ethical considerations, and potential workarounds they employed when engaging with design projects at an academic level.

A co-design research model was developed to prompt researchers to identify alternatives to higher-risk stakeholders at two milestone stages of the design process: research and design validation. Criteria for identifying potential surrogate participants is also suggested. This model can be used to prompt design researchers to recruit suitable surrogate participants based on the type of project.

The proposed model enhances clarity in the design research process, maintaining research integrity and improving ethical compliance while minimising time costs. By proactively identifying surrogate participants, researchers can reduce future ethical complexities, although this may involve a trade-off between research depth and participant suitability.

Keywords: Ethics, design research, stakeholder recruitment, co-design, undergraduate

1 INTRODUCTION

Incorporating stakeholders into the design process, known as co-design or participatory action research, enhances the relevance and sustainability of products and services by ensuring they are user-centred and fit for purpose [1, 2]. Engaging stakeholders is particularly crucial during problem identification and user specification, as well as during design validation phases [3]. In design education, there is a growing emphasis on projects involving marginalised or underserved populations, offering students opportunities to develop impactful solutions that enhance their own educational experience. This requires a more robust ethical review process at an institutional level as there is a higher risk for ethical considerations such as power dimensions, agency, and intersectionality, necessitating careful deliberation to protect these groups from potential harm [4, 5]. There appears to be a gap in design education regarding the efficacy and ethical implications of including high-risk participants in design projects, and this gap can negatively impact designers' abilities to consider the social implications of their design practice upon graduation[6].

Academic timelines often impose constraints that make navigating institutional ethics processes challenging, potentially leading to delays incompatible with course schedules [7]. To address these challenges, alternative approaches such as engaging with secondary stakeholders, inferred users, or using inferred testing methods have been proposed as substitutes for direct involvement of vulnerable groups [8]. These approaches aim to balance the need for ethical compliance with the educational benefits of stakeholder engagement. However, understanding how design students navigate these ethical

challenges within the constraints of academic environments is crucial for developing best practices in ethical design education.

This study aims to explore the ethical challenges encountered by product design students and the strategies they employ when working with vulnerable stakeholders within rigid academic ethics frameworks. A decision matrix is presented to guide future design students who intend to engage in design projects involving high-risk participants, including approaches for mitigating the unnecessary need for direct involvement of vulnerable populations, thereby fostering a more responsible, inclusive, and ethical design practice. This research was undertaken under ethics approval no. 2024_11_12_S&E.

2 METHODS

2.1 Examined institutional Research Ethics Committee (REC) applications

From 2021-2025, there were thirty-five institutional REC applications submitted for review by design researchers (staff, undergraduate and postgraduate). These were assessed based on REC decision, nature of delays (if applicable), and whether vulnerable populations were specified as potential research participants.

2.2 Interviews with graduate product designers

Eight graduate product designers who engaged with vulnerable participants as part of their final year/capstone projects, or who engaged with sensitive topics, were interviewed to discuss the nuances of their design research approach, how they sourced and engaged with vulnerable stakeholders, how they strategised workarounds, and how they navigated ethical issues at two key stages of their projects, namely the initial research phase and the user testing/design validation phase. Table 1 lists the prompts used in the interviews. The interviews were conducted online, and the transcripts were anonymised.

Table 1. Interview prompts for graduate product designers who engaged with vulnerable participants or sensitive topics as part of their final year/capstone design project

Prompt No.	Prompts
1	Can you briefly describe your final year design project and how it involved design research?
2	What was the primary goal of your project?
3	How did you decide who to include in your primary research?
4	What criteria guided your selection process?
5	Did you consider or initially plan to engage with vulnerable populations for your research?
6	If so, what led you to that decision?
7	What ethical considerations influenced your approach?
8	If you avoided working with vulnerable populations, what alternative methods or participant groups did you use?
9	How effective were these alternatives in providing the insights you needed?
10	In cases where you used alternative participants, did you feel the quality or depth of the insights was comparable to what you might have obtained from vulnerable populations?
11	Did you encounter any ethical challenges while conducting your research?
12	How did you address these challenges, especially regarding participant consent, privacy, or potential harm for both you and your participants?
13	What research techniques or tools did you find particularly helpful in gathering insights without involving vulnerable populations?
14	In what ways did the research approaches you chose impact the outcome or design decisions of your project?
15	What advice would you give to future design students who are unsure about using vulnerable participants in their research?
16	Are there specific strategies or resources you can recommend?
17	Is there anything you would do differently in terms of participant selection or research design?
18	How has this experience shaped your approach to design research in general?

A thematic analysis was performed on the transcripts using Braun and Clarke's six-step approach to identify major themes that relate to the prompts, with particular focus on the challenges and workarounds used to progress design project without reducing the impact of the designed solution [9]. These data were then used to develop a co-design model to assist design researchers identify alternative

stakeholders and design strategies without reducing the impact of the research or quality of the user feedback, to maintain the level of resolution of the designed solution.

3 RESULTS

3.1 Review of Institutional REC ethics applications and feedback for design research

35 design research applications were submitted to the institutional REC for review. 14 (40%) applications proposed recruiting vulnerable participants. None of these applications were accepted upon first review by the REC and required further clarification (major and minor) or were rejected (Table 2). This created delays for studies, some of which were at critical time stages.

Table 2. Summary of REC outcomes

Decision	Definition	No. of applications
Approve	No clarifications required.	0
Minor clarifications	Requiring administrative changes such as enhanced clarity and further minor details.	6
Major clarifications	Requiring substantive clarification to address ethical issues such as participant selection and informed consent.	6
Reject	Little or no ethical considerations considered.	2
Noted	Usually, research approved by a commensurate institution.	0
	Total	14

Delays in ethical approval were attributed to the following factors:

- Incomplete information: Applications are submitted with incomplete or missing sections, insufficient supporting documentation (information sheets, informed consent forms, consent to contact proof), or research materials (survey questions, usability study protocols, etc.).
- Scope: Projects are deemed too ambitious to be undertaken and completed within the proposed timeline.
- Safety: Insufficient participant and researcher protections regarding topic choice, recruitment, study locations and research procedures.
- Lack of clarity: Ambiguous research questions and undefined research methods contributed to the most delays.

3.2 Thematic analysis of product design graduates' experiences

Table 3 describes the overarching themes that were identified through interviews as being contributors to ethical challenges or issues when working with vulnerable stakeholders and sensitive topics, as well as the workarounds employed where applicable.

Table 3. Themes identified through thematic analysis of interview transcripts

Thematic Area	Sub-themes (Challenges)	Workarounds	Transcript quotes
Research participant selection	Identifying relevant stakeholders	Known contacts	"At the beginning it was kind of just people I knew and had general ease of access to."
	Access to stakeholders	Engage with those who interacted most with the target stakeholder	"I wanted to talk to carers because they interact with Parkinson's patients daily."
Ethical considerations	Obtaining formal consent via signed documents	Ensuring formal consent and maintaining participant anonymity	"Very professional, and they all consented, and they all had the recordings."
	Constraints prevented direct engagement with a formal approach	Informal data gathering based on formal best practice	"I had questions lined up, but I scrapped them because it felt way too formal, and I could tell she wasn't comfortable."
Alternative research methods	Limiting direct engagement	Indirect sources (caregivers, online forums, and videos)	"I found that online forums and YouTube videos provided personal experiences that were really insightful."
	Sourcing rich alternative data	Observations and diary keeping	"I received a diary entry from a participant tracking his medication use, which was eye-opening."

	Gaps in contextual understanding via secondary sources	Roleplaying, scenarios	“Role-playing scenarios was really helpful for me, especially for testing ideas for exercises and medication”
Effectiveness of alternatives	Sufficient research depth	Secondary research and secondary stakeholder engagement	"The nurses and family members provided deeper insights than the anaesthesiologists."
	Potential biases of indirect participants	n/a	“I probably would have gotten more relevant data if I had interacted with patients directly.” ALSO "Older adults sugarcoat their situations, but their caregivers gave me a more honest view."
Impact on design decisions	Initial research methods were too broad	Use of parallel primary research methods	"Seeing the actual challenges in the ICU shaped my approach entirely."
	Validating assumptions	Engaging with multiple stakeholders	"Hearing similar issues in multiple interviews confirmed that these were real pain points."
Advice for future designers	Ethical approval took longer than expected	Engage as early as possible	“I wish I had started reaching out sooner. Ethical approvals take time.”
	Approaching vulnerable participants without making them uncomfortable	Approach research with confidence and adaptability	"When talking to older adults, be confident and show genuine interest. It makes a difference."

4 PROPOSED DESIGN RESEARCH DECISION MATRIX

The transcripts were reviewed thoroughly and further supplemented by the literature to create a design research decision matrix (Table 4) to prompt design students to consider all design research methods in the initial research stages of their design projects, namely the discover and define stages, as per the Double Diamond design approach [10]. An interactive prototype of the decision matrix was then created using Figma to enhance clarity and interaction [11].

Table 4. Design research decision matrix stages and choices

Stage	Question / Guidance
1	Define research goals and objectives [PROCEED TO QUESTION 1]
2	Identify primary stakeholders [PROCEED TO QUESTION 2]
3	Are your chosen primary stakeholders considered vulnerable? [YES, NO, DEFINITION]
	IF YES TO STAGE 3
4	Can you access vulnerable populations ethically? [YES, NO, HOW WOULD I KNOW?] [YES]: • Obtain ethical approval (through your institute/faculty/department/school’s Research Ethics Committee) • Ensure you obtain Informed Consent from all participants • Conduct research with stakeholders [PROCEED TO QUESTION 5] [NO]: • Identify and engage with secondary stakeholders to gather insights, such as: o Caregivers, family members, healthcare professionals [PROCEED TO QUESTION 6] [HOW WOULD I KNOW?]: • Consult your institution/faculty’s Research Ethics Committee policy and documents to ensure you are conducting your research ethically • If working with patients, ensure that your research procedures are ethically aligned with the hospital’s ethics procedures • If working with a private company, ensure you align your research to their research governance policies • Ensure that you receive ethical approval from the institute in which you are storing the data [RETURN TO QUESTION 4]
	IF NO TO STAGE 3
5	Gather insights from primary stakeholders: • Ensure you obtain informed consent • Ensure you transcribe and anonymise all data • For pictures/video, ensure no identifiable information is present [PROCEED TO QUESTION 6]
6	Are your design insights sufficient? [YES, NO, HOW WOULD I KNOW?]

	[YES]: • Proceed to ideation stage of design process [END] [NO]: • Use Alternative Methods such as: o Roleplaying o Scenarios o Simulations o Observations o Diary entries o Expert consultations o Further secondary research [RETURN TO QUESTION 6] [HOW WOULD I KNOW?]: Do your insights give you enough information to make design decisions based on robust, evidence-based data? [YES, NO] [YES]: • Proceed to ideation stage of design process [END] [NO]: [REVERT TO QUESTION 6 – NO]
An interactive prototype was developed using Figma for guidance, future testing and improvement [11].	

5 DISCUSSION

The main challenges identified through interviews were clearly defining project timelines, access to stakeholders, and constraints around direct engagement. Most notably, interview participants described how their initial interactions with stakeholders informed their next method of engagement. This process could be incompatible with current ethical approval procedures, as RECs require a complete view of research methods in order to adjudicate. Interestingly, this approach to design research aligns with the types of clarifications noted during the REC ethics applications review phase. Students may not have the entire scope of research planned when framing their projects, which leads to incomplete information, participant safety concerns and ambiguity, when reviewed by a REC.

Regarding high-risk participants, some interview participants used creative workarounds to mitigating direct recruitment at points along the design process where it was not required, opting for alternative methods and surrogate populations preserving valuable insights. These insights served as a basis for our co-design model, prompting students to think meaningfully about stakeholder recruitment. Some participants felt that not including key stakeholders reduced the depth of understanding required to create and validate impactful solutions, so a balance is still required. While it is important and indeed necessary for all research to be ethically approved, this demonstrates the need to build flexibility into institutional research ethics committee review procedures. Findings from the participant interviews indicated that no design project discussed was truly ethically compliant, which underscores the necessity for students to be educated on inferred user testing methods, particularly for initial research stages, and when assessing usability and technical aspects of lower fidelity solutions.

There is a need for design education to continue to hone design students' research skills, especially in the use of alternative design methods that maintain design rigour, and ethical best practice. Considering ethical design research methods earlier in a student's education can also mitigate concerns downstream, building in time for more considered design research, and for REC review and approval. Ethical considerations for more sensitive primary design research can be addressed through practical workarounds, such as interviewing someone about their experiences within a hospital system after they have recovered, or asking a parent regarding the experiences of their child, or engaging in roleplay scenarios to test usability aspects of a concept. Support resources for students and project supervisors are necessary to ensure research plans are completed to a degree which satisfies the ethical requirements of the host institution. Embedding the decision matrix into a typical design module can support this as our approach embeds ethical considerations at design research decision points and operationalises participant selection into actionable prompts. However, further support must also be provided by

academics to novice design students engaged in research whose expertise and support are crucial for fostering a culture of ethical research practices from the outset.

6 LIMITATIONS & FUTURE WORK

The study's data are limited due to the focus on a single institution REC and the small sample size of design graduates interviewed (n=8). This can also introduce bias due to self-reporting. Also, the decision matrix prioritises ethical expediency (e.g. surrogate participation) and may sacrifice depth of lived-experience insights in certain contexts. Future work involves including REC insights from multiple institutions, and participants from related domains such as health research and human-computer interaction (HCI) to provide a broader perspective and improve the co-design model's applicability and enhance reproducibility. Further development is also required for the proposed co-design model itself, adapting it so it can also be utilised at the user testing/design validation stage of the design process. This research can also serve as guidance document to identify the pain points of other institutional research procedures, prompting more pragmatic, institutionally aligned approaches for future design researchers.

7 CONCLUSIONS

There is a need to shift the perception of ethics in design research, moving from being seen as a barrier to being an integral part of the design process. Embedding ethical considerations into project timelines can mitigate delays caused by submitting incomplete research plans for approval. Instead, the design process can be enhanced by ensuring time is given to thoroughly plan a robust, ethically sound research plan. While design research often evolves as new information is gathered, engaging with institutional ethical procedure offers two major benefits: a clear and actionable research plan is created, and the research conducted is ensured to be ethically sound. However, given the diverse nature of design projects, there is a need for institutional ethics application processes to balance ethical awareness with research flexibility. This balance is crucial for maintaining the integrity and relevance of design research while adhering to robust ethical standards. The provision of support resources such as a design research decision matrix can help inform researchers' decisions when approaching early-stage design research.

REFERENCES

[1] Sendra P. The ethics of co-design. *Journal of Urban Design*, 2024. 29(1): p. 4-22.

[2] Sanders E.B.-N. and Stappers P. J. Co-creation and the new landscapes of design. *Co-design*, 2008. 4(1): p. 5-18.

[3] Kerr J. et al. Integrated Co-design: A Model for Co-designing with Multiple Stakeholder Groups from the'Fuzzy'Front-end to Beyond Project Delivery. *International Journal of Design*, 2022. 16(2): p. 75-90.

[4] Anderson E. E. and Corneli A. What Kinds of Participants Are Considered Vulnerable in Research, and What Are Some Ways to Protect Vulnerable Participants? in *100 Questions (and Answers) About Research Ethics*. 2018, SAGE Publications, Inc. p. 50-53.

[5] Göttgens I. and Oertelt-Prigione S. The application of human-centered design approaches in health research and innovation: a narrative review of current practices. *JMIR mHealth and uHealth*, 2021. 9(12): p. e28102.

[6] Sin J. et al. Uncovering inclusivity gaps in design pedagogy through the digital design marginalization framework. *Frontiers in Computer Science*, 2022. 4: p. 822090.

[7] Hammett D., Jackson L. and Bramley R. Beyond 'do no harm'? On the need for a dynamic approach to research ethics. *Area*, 2022. 54(4): p. 582-590.

[8] Milton A. and Rodgers P. *Research methods for product design*. 2023: Hachette UK.

[9] Clarke V. and Braun V. Thematic analysis. *The journal of positive psychology*, 2017. 12(3): p. 297-298.

[10] *Eleven lessons. A study of the design process (PDF).* Design Council, 2005.

[11] White E. and Griffin J. *Design Research Decision Matrix: Figma prototype.* Link: https://www.figma.com/proto/e9BtuLeLFSn8whc9HmHojp/Design-research-decision-matrix-v1.0?node-id=1-2&p=f&t=bqpXPrSozmesgrvk-1&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=1%3A2 (created 24/02/25).