

Barriers and Facilitators of Participation in The Birth Outcomes and Water Study

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Introduction

- Epidemiological case-control studies must have ample recruitment to achieve study goals and be generalizable¹.
- Understanding barriers and facilitators of participation in these research studies can help to solve low participation rates.
- The Birth Outcomes and Water (BOW) pilot study seeks to understand how presence of agricultural chemicals in drinking water may be related to the higher birth defect rates in Nebraska. From the participants' perspective, the BOW study involves three main activities: (1) completion of an hour-long survey, (2) provision of water and saliva samples during an in-home visit from a researcher, and (3) provision of a blood sample drawn by a local medical provider.

Objective:

- To investigate barriers and facilitators of the recruitment and participation of Nebraska mothers who birthed infants diagnosed with or without a birth defect and who were the target participants of the BOW study.

Methods

- Semi-structured interviews were conducted with participants or potential participants to elucidate the barriers and facilitators of the women's participation.
- Interviews began with an open-ended question about the attractive aspects of the study. Unattractive aspects of the study were also addressed, along with follow-up questions pertaining to themes found in prior literature.
- Qualitative analysis of the interviews was performed with MAXQDA software, allowing for transcripts to be coded with themes and subthemes².

Discussion

- Interviewees cited a contribution to the greater good as a major motivator in comparison to personal benefit.
- Financial incentive was not a major facilitator for initial participation, but was an effective way to mitigate barriers of the study that were time consuming, costly, or inconvenient.
- Researchers' effective communication efforts with participants emerged as a key facilitator, particularly aiding in building trust towards the researchers and study as a whole.
- Study results will provide guidance to optimize facilitators and minimize barriers to participation in the future full BOW study, as well as for future studies with similar protocols or target populations.

Recommendations:

1. Establish and maintain regular responsive contact with study participants.
2. Provide contacts for some clinics that are aware of the BOW study and are willing to complete the blood draw component. Additionally, include further clarity about blood sample collection and shipment expectations.
3. Design an IRB protocol which includes starting reminders over at certain points. This could occur where a study participant is able to request further contacts due to still wanting to participate in the study.
4. Capitalize upon the ability for participants to receive their individual biological and water sample results, as well as general study results during recruitment. This personal benefit will likely be a motivator to participants who are less concerned with participation for extrinsic reasons.

Results

Legend:

Facilitator

Barrier

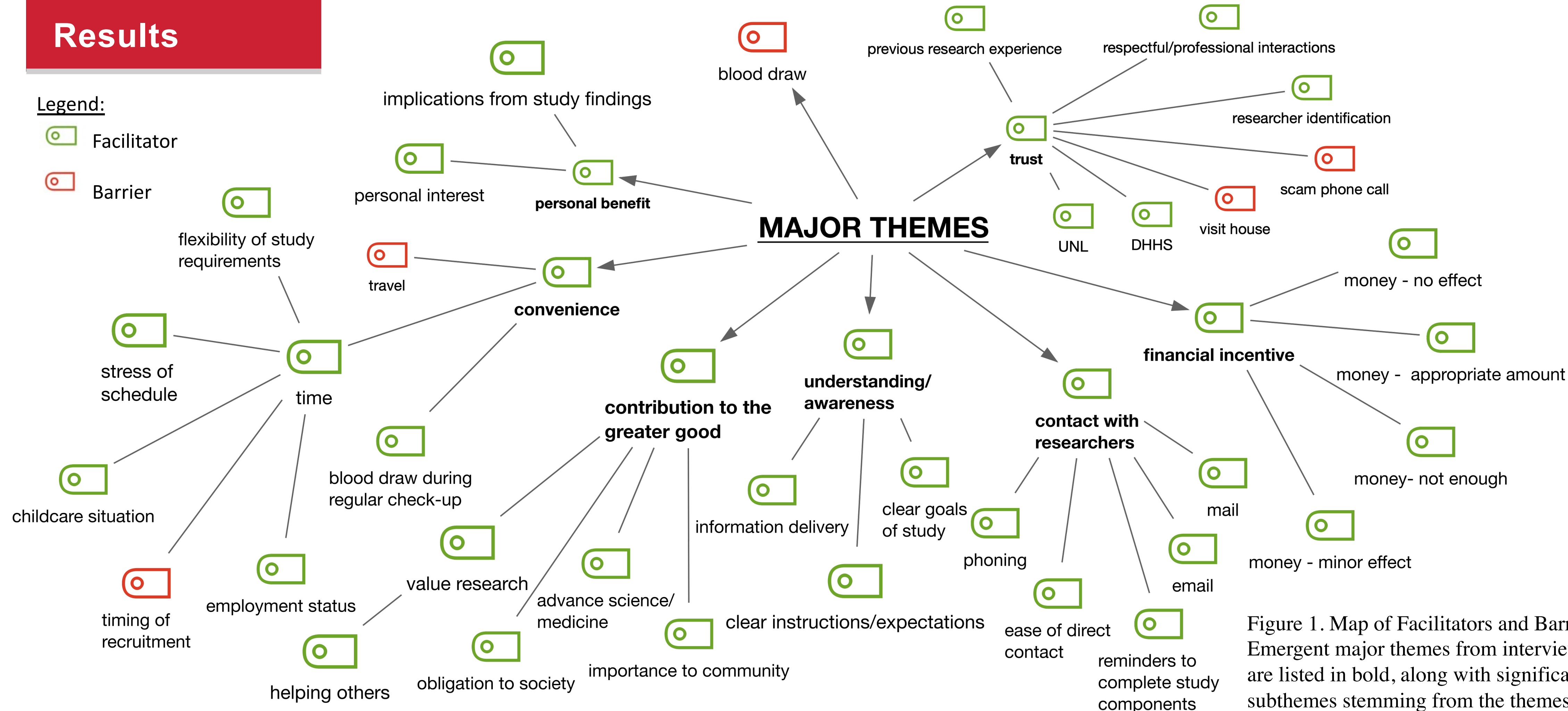


Figure 1. Map of Facilitators and Barriers Emergent major themes from interviews are listed in bold, along with significant subthemes stemming from the themes.

References

<https://bow.unl.edu>

¹ Gao, L., Green, E., Barnes, L. E., Brayne, C., Matthews, F. E., Robinson, L., & Arthur, A. (2015). Changing non-participation in epidemiological studies of older people: Evidence from the Cognitive Function and Ageing Study I and II. *Age and Ageing*, 44(5), 867–873. <https://doi.org/10.1093/ageing/afv101>

² Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. In *Beverly Hills, CA: Sage*.

Acknowledgements: BOW Study Participants; University of Nebraska Collaboration Initiative Seed Grant, Daugherty Water for Food Global Institute, UCARE.

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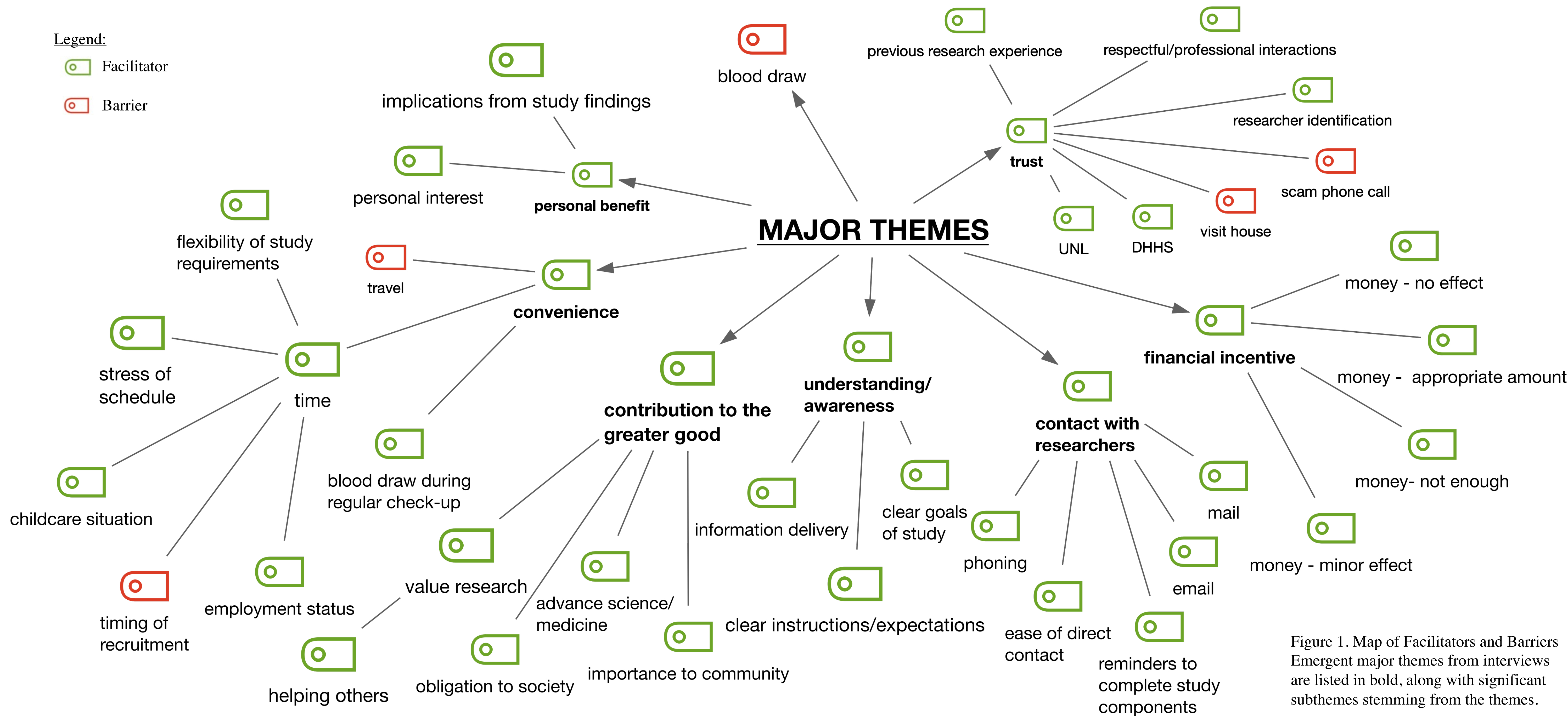


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ADDITIONAL BARRIERS AND FACILITATORS

Theme	Subthemes
Role	Knowledgeable research background; Parent; Occupation
Social Influence	Spouse influence

Protocol Related Barriers

Water sample
Survey
Invasiveness
COVID-19

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