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KEY CONCEPTS

How to build a simulation-based research team

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Research across all scientific fields is increasingly carried out in teams.(1) Team-based research is more likely than solo research to result in a high number of citations.(1) Research teams may also develop a programme of research, with a central focus.(2)
It is therefore important to build an effective research team when conducting simulation-based research. The following are our tips from over 13 years of experience in the field.

Team leader

Every project needs a team leader, and you are the leader for your own project. This gives you the opportunity to steer the project in your chosen direction, but also gives ytou responsibility for overseeing the effective running of the team.

Research partner

Ideally, your research partner is of a similar level of research experience to you, and undertaking a concurrent (preferably related) project. Research partners can be invaluable assets, whose roles can include, for example: double-coding of data; being the blinded/non-blinded researcher; data extraction for literature reviews; and proof-reading manuscripts.
A good research partner can also help provide motivation, moral support and goal-setting.

Supervisors

Your supervisor or supervisors may be predetermined. If you have a choice, try to find someone who has published in your area of interest, with whom you have an affinity, and who you think will be able to dedicate some time to helping you with the project. Ideal supervisors are mentors who have enthusiasm, who empower the mentee and who have the capacity to compromise.

Specialist skills

Depending on the type of simulation-based research being conducted, you may choose to incorporate research team members with specialist skills. For example, a literature review may require a librarian, a quantitative study may require a statistician, or a qualitative study may benefit from the expertise of a social scientist.

Other institutions

Relatively few simulation-based research studies are multi-centre,(4) and therefore collaborations with other institutions can set your study apart, particularly when collaborators are based overseas. Collaborators may also provide a different perspective, and make your conclusions more robust.

Other considerations

Personality: Surround yourself with people who you get on well with, and who also get on well with each other.
Mix of strengths: It may be worth considering questionnaires, such as the Belbin Team-Role Self Perception Inventory,(5) that help you to understand the strengths you bring to a team, and the complementary traits you might seek in team members.Criticism: Foster openness to constructive criticism within your team, so that you can all benefit from each other's feedback.

Authorship: Discuss authorship early and consider the use of an authorship grid.

Declarations

Authors' contributions

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