



Ethical Foundations in Team Science Settings

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Context of the Problem

decision-making -> ethical decision-making -> ethical decision-making in team science

PRIMARY

➤ How do the dynamics of team science challenge ethical decision-making strategies?

SUBSIDIARY

➤ What is decision-making?

➤ What role do values play in decision-making?

➤ What constitutes “ethical” decision-making?

Background for the Problem

PRIMARY

➤ *How do the dynamics of team science challenge ethical decision-making strategies?*

Thoughts from the team decision-making literature

The role of mental models

-Situational mental models -> mutual mental models (Serfaty, Entin, & Volpe, 1993)

-“The study of TDM must focus on understanding how teams function—how they interact, coordinate, communicate, exchange information, and adapt—and on explicating the nature of teamwork and teamwork skills.” (Cannon-Bowers, Salas, & Converse 2013)

The nature of collaboration

-Ethical and intersubjective knowledge are both required for dealing with complex problems. (Klein 2013)

-Skills of research integration have become as essential today as disciplinary skills. (McDonald et al. 2009)

- *Understanding all of this are values*

Serfaty, D., Entin, E. E., & Volpe, C. (1993). Adaptation to stress in team decision-making and coordination. Proceedings of the Human Factors and Ergonomics Society 37th Annual Meeting 1228-1232. Santa Monica, CA: Human Factors and Ergonomics Society.

Cannon-Bowers, J.A., E. Salas, and S. Converse. “Shared Mental Models in Expert Team Decision-Making.” in *Individual and Group Decision-Making: Current Issues*: 221-243. Psychology Press.

Thompson, J. 2013. “Communication and collaboration in interdisciplinary research”, In O’Rourke, Rowley, Eigenbrode, and Wulfhorst, *Enhancing Communication and Collaboration in Cross-Disciplinary Research*, Thousand Oaks: Sage.

Macdonald, Bammer, Deane. 2009. “Research Integration Using Dialogue Methods” ANU Press. Available online.

Background for the Method

decision-making -> ethical decision-making -> ethical decision-making in team science

- Ethical decision-making focused on the individual
 - Moral Development, privileging of reason
 - Kohlbergian-based instruments of individual psychological moral development to assess ethical development.
- Via teams: mental models, organization communication
 - need to broaden decision-making to include other factors including ethics.
- **We're after the moral foundation, which exists not only for the individual but also at the team level through processes of enculturation.**

The "DNA of decisions"

METHODS

Context of the Method

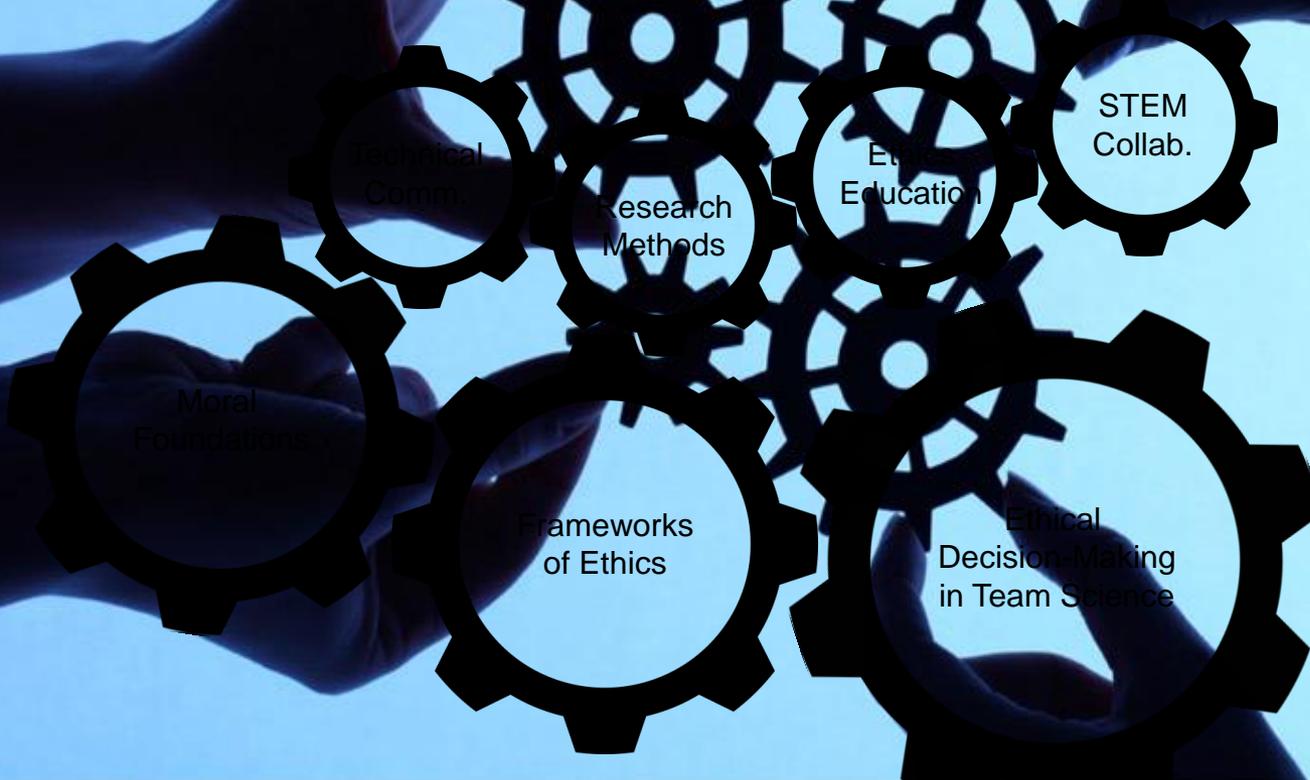
Hypotheses:

- a. Disciplinary enculturation exacerbates differences in individual value perspectives and decreases researchers' abilities to collaborate effectively in team science settings.
- b. Foundational normative differences exist between disciplines (because of enculturation)
- c. Alignment of framing/foundational values make for ethically better and more efficient decisions.

METHODS

The Experimental Design

- **Objective 1:** Identify the moral **foundations** that are shared or different within five distinct disciplinary cultures in STEM research
- **Objective 2:** Understand the active **frameworks** for ethical decision-making that emerge in the five distinct disciplinary cultures of STEM research



Suggestions? Feedback?

- **Objective 1:** Identify the moral **foundations** that are shared or different within five distinct disciplinary cultures in STEM research
- **Objective 2:** Understand the active **frameworks** for ethical decision-making that emerge in the five distinct disciplinary cultures of STEM research



Ethical
Decision-Making
in Team Science

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