## DISSERTATION PROPOSAL

## Nathan Fulham

## "Complementary construal-level integration and coordination in multidisciplinary environments"

Friday, April 18, 2025 2:30pm Tepper 5219 & Zoom <u>https://cmu.zoom.us/j/92687817699?pwd=oDaPTKhDc7QQCFf70Mmb5M9GBF7PGH.1&jst=2</u> ID: 92687817699 Passcode: 902492

Modern work often involves collaboration across increasingly specialized disciplines (Jones, 2009; Haeussler & Sauermann, 2020; Wuchty et al., 2007). At the same time, collaboration has shifted from static, bounded teams to dynamic teams characterized by shifts both in which roles are needed to complete tasks and which specific individuals fill those roles (Edmondson, 2012; Mayo, 2020; Mayo et al., 2024; Mortensen & Haas, 2018). As increasing specialization limits individuals' understanding of the task (Cronin & Weingart, 2007), and dynamic membership limits their understanding of their collaborators (Argote et al., 1995; Carley, 1992); individuals face challenges conceptualizing interdependencies and coordinating across them (Cronin & Weingart, 2007; Mathieu et al., 2000). More specifically, individuals' limited understandings of their task and collaborators make it difficult to connect specific sub-components of a focal task with collaborators' capabilities (Chi et al., 1988; Liang et al., 1995; Okhuysen & Bechky, 2009).

I argue one reason for this difficulty is that optimal construal levels (Trope & Liberman, 2003, 2010; Wiesenfeld et al., 2017) are different for cognitively representing a task's sub-components and unfamiliar collaborators respectively. That is, while lower-level construals help individuals more accurately represent sub-components of complex task processes (Alter et al., 2010; Rozenblit & Keil, 2002), higher-level construals are useful for representing unfamiliar collaborators (Liviatan et al., 2008; Okhuysen, 2001) across cognitive distance (Berson et al., 2015; Nooteboom, 1999; Reyt et al., 2016; Vestal & Danneels, 2024). As a result, while individuals in most team environments will need to integrate their task and team mental models (Cannon-Bowers et al., 1993; Mathieu et al., 2000, 2009), individuals in dynamic multidisciplinary environments need to integrate these representations across multiple levels of abstraction.

Approaches to construal level theory in organizations have begun to emphasize that the complexity of organizational work provides a range of situations demanding a range of construal levels (Wiesenfeld et al., 2017). These models often emphasize the benefit of shifting construal levels across different stages of organizational phenomena (Park et al., 2025) to respond to different environmental demands (Steinbach et al., 2019). However, conceptualizing coordination in multidisciplinary environments requires individuals not just to shift construal levels but to integrate complementary representations across domains (i.e., task and collaborator) and construal-levels (i.e., lower and higher levels respectively), sometimes within a single-stage of the collaborative process. Thus, I propose a theoretical model in which integrating concrete representations of tasks with abstract representations of collaborators facilitates coordination in dynamic, multidisciplinary contexts by allowing individuals to connect specific task components with collaborator capabilities. In turn, this coordination aids their collaborative efficiency and quality of care by allowing them to navigate the complex interdependencies of their work.

To test this model, I propose a randomized field experiment of internal medicine residents

working in outpatient clinics. This context is particularly relevant for this study for several reasons. First, the work is embedded within a multidisciplinary context—the outpatient clinic includes supervising physicians, nurses, medical assistants, specialists (e.g., a Diabetes coach), and others. Second, delivering care to patients is a complex process involving a range of sometimes ambiguous interdependencies that

vary depending on the idiosyncrasies of a given patient and hospital system. Third, "teaming" behaviors including coordination—that are increasingly recognized as important for the provision of health care (Nawaz et al., 2014; Rosen et al., 2018) are becoming legitimized as part of the evaluative criteria of residents (Accreditation Council for Graduate Medical Education, 2019). Finally, both efficiency and quality are extremely valuable outcomes in these environments. Due to high demands on their time and attention, residents often fall behind or fail to fully integrate into clinic workflows, leading to delays in patient appointments and care delivery, negatively affecting care quality.

In coordination with committee members and residency program educators, I am developing interventions that combine the program's current educational approach (i.e., case-based learning; Thistlewaite et al., 2012) with common construal-level manipulations (Burgoon et al., 2013) to compare how representing tasks and collaborators at either matching construal levels (i.e., both abstract or both concrete) or complementary construal levels (i.e., concrete task representations and abstract collaborator representations) affects residents' coordination and, in turn, the quality and efficiency of their work in these clinics. With this design, I am aiming to make significant contributions to our understanding of the cognitive underpinnings of coordination in dynamic, multidisciplinary environments and to our theoretical approaches for applying construal level theory (Trope & Liberman, 2010) to complex organizational phenomena (Wiesenfeld, 2017).

Proposed Committee: Laurie Weingart (Chair), Anna Mayo, Matthew Cronin, and Batia Wiesenfeld

## Proposal Documents:

https://docs.google.com/document/d/1CdyeDRKCWNZ3c435BvT3WZxDwAdGKf6d/edit?usp=sharing &ouid=117749214069556328909&rtpof=true&sd=true