Baggio, J.A., BurnSilver, S.B., Arenas, A., Magdanz, J.S., Kofinas, G.P. and De Domenico, M., 2016. Multiplex social ecological network analysis reveals how social changes affect community robustness more than resource depletion. Proceedings of the National Academy of Sciences, 113(48), pp.13708-13713.

In the 2016 study "Multiplex social ecological network analysis reveals how social changes affect community robustness more than resource depletion," Baggio et al. apply multiplex network analysis to understand the robustness of three small indigenous communities in Arctic Alaska amid potential ecological and economic changes. Utilizing data on subsistence food flows, the authors construct a multiplex network to represent the complex interdependencies between ecological resources and social relations, measuring the flow of food and resources between households (Baggio et al., 2016, p. 13708). Each node in the network represents a household, and each layer corresponds to a unique resource–relation pair, such as caribou sharing. The authors hypothesize that the loss of key households or social relations could impact network robustness more significantly than the depletion of core subsistence species (Baggio et al., 2016, p. 13709).

This study's multiplex network approach is particularly relevant to my research as it examines the influence of various types of interactions within a community, similar to the professional and personal interactions networks. Like Baggio et al. (2016), we are interested in the distribution of interactions and the resilience of teams in the face of change. The authors' use of Spearman correlation to analyze the relationships between layers offers a potential methodological approach for my analysis of professional and personal interaction layers and their impact on team dynamics and creative productivity. Especially if I cannot get multivariate ERGMs to run.

Furthermore, the concept that key households generate and share most of the food within their communities parallels the idea in my research that empowered individuals or leads within teams could play a central role in fostering team productivity and resilience. While Baggio et al. (2016) focus on the robustness of subsistence networks in response to climate change, my research aims to explore how positive professional and personal interactions contribute to small-team resilience and creative work productivity within academic settings.