



## 2020 CSSI Research Talk:

### "Collective response to scarcity: How the resource environment shapes social networks"

Abstract: This project explores differences in the structure of social (communication) networks that emerge within experimental groups of human research participants reacting to changes in their resource environment. My goal is to identify the effect of changes in the resource environment on person-level preferences for communication partners. My overarching hypothesis is that when resources become increasingly scarce in the environment, people prefer fewer communication partners, and increase their rate of communication with each partner. Conversely, when resources become increasingly abundant, people prefer more communication partners, and their rate of communication with each partner decreases. At the group-level, social networks will shrink in size and become more densely connected in response to resource scarcity. In response to resource abundance, social networks will expand in size and become more sparsely connected. If my hypothesized results are obtained, the present research will be the first controlled studies to demonstrate that environmental scarcity/abundance causes structure to emerge in social networks. This project is in progress, and to-date I have explored individual behavior in a novel explore-exploit paradigm I developed for this research program. I will review experimental results from participants engaging in this paradigm as individuals, without access to social information. I will then outline my plans for the next phase of the project, in which participants will engage with the paradigm in small groups.



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