Rethinking Leadership: A Network Optimization Perspective

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Changing Models Leadership
Developing leaders is a primary goal of a Military Academy. Over the last three decades, our understanding of leadership and team dynamics have evolved a great deal. Traditional perspectives of leadership focused on intrinsic abilities of the individual (e.g., leadership trait paradigm). More recently, “situational theories” have dominated, such as dyadic assessments (e.g., transactional leadership assessments are made by team members who are asked to rate their leaders’ abilities). Now, leadership is seen as more of a process of reciprocated influence that relies on relationships between leaders and followers and does not necessarily require a formal hierarchical position.

These notions of leadership are crucial in helping refine and restructure our military capabilities to meet the shifting needs of the US military. For instance, as the military’s role shifts from traditional to more unconventional warfare operations, it is important to equip our service members “to learn to [lead] in situations where [they] don’t have command authority, where [they] are neither controlled or controlling.”

Diversity & Specialization
Research being conducted through the Behavioral Science & Leadership Department at West Point has focused on refining our assessments of leadership. Instead of relying on the naive assumption that higher leadership skills correspond to better teams, successful leadership is a result of the diversity and distribution of traits of the team. Diversity can be measured as the variance of social and psychological strengths found to be important in the development of effective leadership dynamics. The goal of the model would be to identify the optimal levels of specialization among team members across the important factors of leadership as defined by the study. In other words, is it beneficial to have all team members at the highest levels of these traits or is it better to conceive of teams as how well they align or match their functional roles and leadership needs?

West Point Cadet Data
We recently completed data collection from 5 cadet companies each comprised of about 125 students. Students were asked to answer questions about organizational identity, personality (TIPI), leadership (e.g., motivation-to-lead, shared and authentic leadership), army values, and cynicism. In addition, sociometric data or social network data were collected so that the specialization and diversity of traits can be modeled with consideration of their structural roles, both formal and informal. Students were asked to identify up to others whom they considered to be their friends, who they trusted, and who they recognized as potential leaders. In addition, command networks are constructed out of their assigned military roles (these are classic hierarchical networks that resemble military units).

Below shows the friendship, perceived leadership, and formal command network structures for one of the cadet companies. The nodes are sized by authentic leadership scale and colored by gender (green = males, blue = females). In our preliminary analysis, we can see that those who are perceived by others as strong leaders (i.e., high degree centrality in Leadership Network) possess more classic leadership qualities, such as greater authentic leadership; whereas those in formal positions of authority tend to have lower scores, and popular in the friendship network show no differences on these traditional assessments. The task now is to model the distribution of these types of qualities over the various organizational social structures, and to determine optimal levels of these traits among team members as they relate to performance of the military cadet company. These data are just beginning to be analyzed. We are excited about the possibilities and potential follow-on efforts that can include the development of a hybrid (explicative and empirically-based) model of military leadership. These types of studies will become crucial for the continued growth and adaptation of our models of leadership, particularly as they define officer training.

Important Dates:
4 September: NSC Lunch talk: Maj Paulo Shakarian, Social Network Mining for Law Enforcement
5-6 September: Minerva Workshop on Methodological Advancements in the Study of Dark Networks
9 September: NSC Lunch talk: Dr. Christopher Potts, Preferences and Pragmatic Enrichment in Multiagent Decision Theory
19 September: NSC Lunch talk: Dr. Maria Vanina Martinez, Structured Defeasible Reasoning and Argumentation-based Diagnosis Reasoning

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