The paper titled "The Friendship Paradox: An Analysis on Signed Social Networks with Positive and Negative Links" by Catherine Yang, Yuying Zhao, and Tyler Derr from Vanderbilt University, investigates the Friendship Paradox (FP) and the Generalized Friendship Paradox (GFP) in signed networks[1]. The Friendship Paradox is a phenomenon in social networks where an individual's neighbors, on average, have more of some measurable characteristic or quantity than the individual. Most existing works on FP and GFP focus on positive relationships, but this paper bridges the gap by considering both positive and negative relationships (e.g., friends and foes)[1].

The authors propose a first-order signed neighbor metric based on the traditional (G)FP that considers both undirected homogeneous link relations (e.g., comparing an individual's foes to the foes of their foes), and directed heterogeneous link relations (e.g., comparing an individual's friends to the friends of their foes)[1]. They also develop a second-order metric to further study the relationship between an individual's positive and negative neighborhood sets (e.g., comparing the average number of friends from an individual's set of foes to that of their friends)[1].

Finally, the paper presents an empirical analysis of these proposed metrics in signed networks across a representative set of real-world datasets[1]. This research contributes to a deeper understanding of social network systems, particularly the dynamics of positive and negative relationships within them[1].

Source: Conversation with Copilot, 5/24/2024

(1) The Friendship Paradox: An Analysis on Signed Social Networks with .... https://www.kdd.org/kdd2023/wp-content/uploads/2023/11/yang2023friendship.pdf.

(2) AI PDF Summarizer – Summarize Long PDFs for Free - Smallpdf. https://smallpdf.com/ai-pdf.

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