

Investigating Information and Support Interaction Patterns in an Online Health Community



Bonnie Chen^a, Shaoqing Ge^b, Oleg Zaslavsky^b, Annie T. Chen^b

^a Chongqing University, Chongqing, China

^b University of Washington, Seattle, USA

VOCALE¹ is a **health-related online community** designed to facilitate health management and problem-solving in people age 65 and older experiencing bothersome age-related symptoms. We have currently conducted **three rounds** of pilot studies in which participants engaged in an asynchronous **online discussion** with other participants, facilitated by a **moderator** who was a member of the study team and has received training in performing the moderator role.

W #VOCALE

Discussion

#Week3 #Pain

This week we will discuss pain. Pain comes in many forms, for example as lower back pain, chronic joint pain, and neuralgia. Not only may pain become more common as people grow older, but some people may also be more susceptible to pain and are likely to report more persistent pain. While most older adults living with chronic pain tend to regard it as manageable for the most part, that can change as new medical conditions develop. Below are some questions to consider:

- Do you have pain?
- How often do you feel pain? How does pain affect your life?
- How do you manage pain?
- Can you give any examples or strategies that help you manage pain?



Please comment on your experiences below and respond to other participants!

RESEARCH QUESTIONS

> **RQ 1:** What kinds of informational and support interactions did members of the online community provide one another?

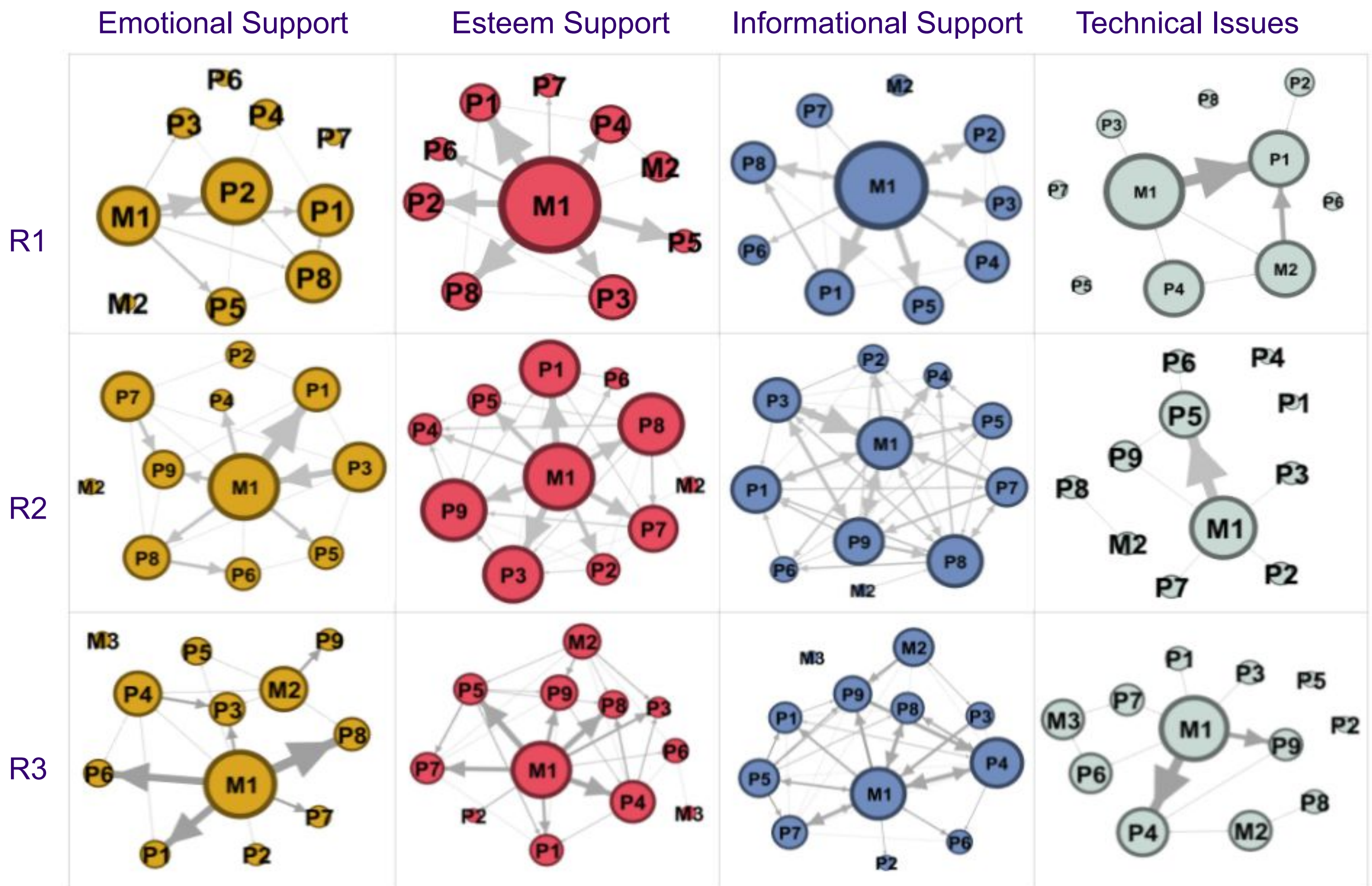
> **RQ 2:** What is the relationship between informational interactions and social network structure?

METHOD & RESULT

> RQ 1: Content Analysis

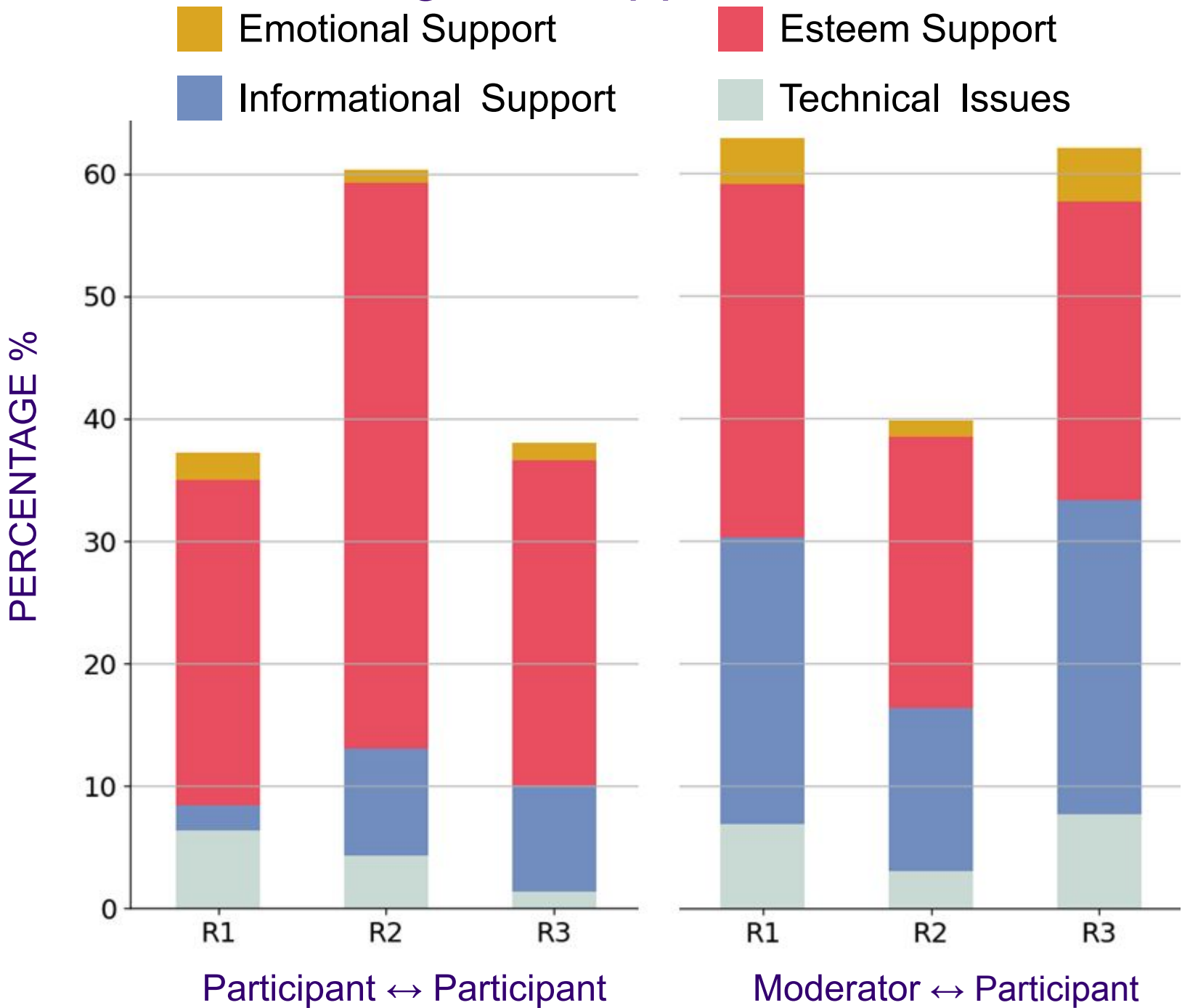
Category	Code	Category	Code	Category	Code	Category	Code
Emotional Support	Miss	Esteem Support	Agreement	Informational Support	Advice	Technical issues	Problem
	Wish		Affirmation		Sharing		Clarification
	Glad		Helpful		Opinion		
	Sorry		Interesting		Negative feedback		
	Empathy				Answering		
	Surprise				Asking		

> RQ 2: Social Network Analysis* (SNA)



*The nodes were defined as participants (P) and moderators (M) and the size of nodes was based on degree. The edge weight determined by the number of times an interaction happened.

Percentage of Support Interactions



- > More messages were exchanged between moderator and participant than among participants, except in round 2.
- > In terms of moderator-participant interactions by different message categories, informational support was most common in the first two rounds, and informational and esteem support were similarly common in round 3.

Metrics

Overall activity	Round 1	Round 2	Round 3
Total number of posts	266	329	249
Avg. posts per participant	19.9	25.7	16.1
Avg. posts per moderator	53.5	49	34.7
Avg. posts length per participant	46.9±48.7	49.5±47.9	105.0±97.8
Avg. posts length per moderator	33.24±26.1	20.6±13.7	21.6±17.3
Number of posts sent by participants	159	231	145
Number of posts sent by moderator	107	98	104
Avg. response time of moderator (hr)	18.43	7.32	13.23

CONCLUSION

- > Informational and esteem support were the most common types of support observed.
- > Content analysis and SNA can be used synergistically to model the interactions between participants and moderators. We hope that this work may inform the design of future health management interventions.

1. Chen, A. T., Chu, F., Teng, A. K., Han, S., Lin, S. Y., Demiris, G., & Zaslavsky, O. (2021). Promoting Problem Solving About Health Management: A Mixed-Methods Pilot Evaluation of a Digital Health Intervention for Older Adults With Pre-Frailty and Frailty. *Gerontology and Geriatric Medicine*, 7, 2333721420985684.