Local knowledge networks and climate change adaptation in coastal communities

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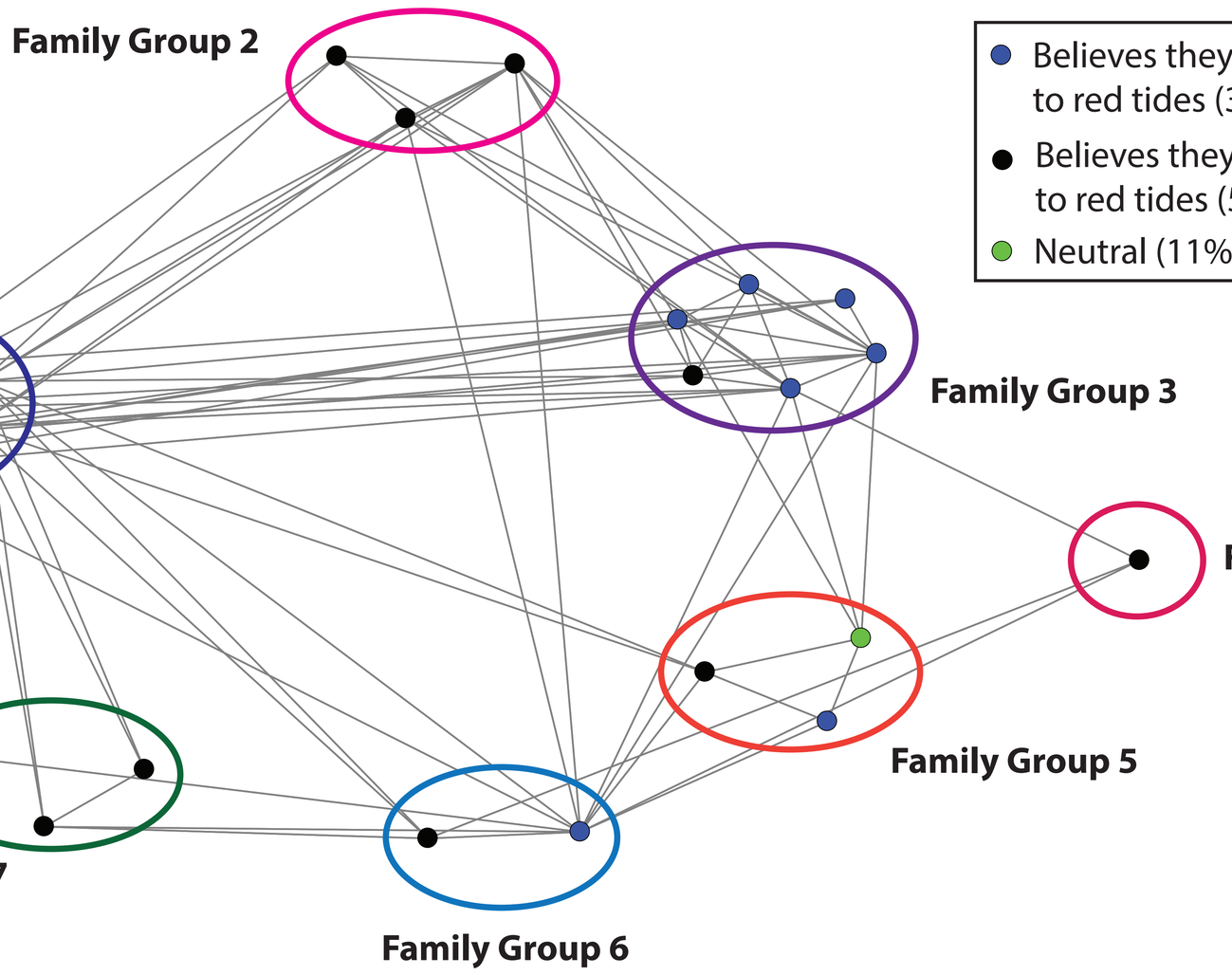

- Believes they ***have not been*** resilient to red tides (32% of respondents)
- Believes they ***have been*** resilient to red tides (57% of respondents)
- Neutral (11% of respondents)

What drives local knoweldge networks for climate change adaptation in the Uruguayan Yellow Clam fishery?

Problem context

- The Uruguayan Yellow Clam fishery is a small-scale fishery, which occurs largely in the community of Barra del Chuy (see the map above).

- The fishery has recently been impacted by reoccuring red tides and mass mortalities, which are potentially related to climate change and lead to fisheries closures.

Methods

- We surveyed 28 of the 31 active fishers in the community to document:

  (1) their beliefs about resilience to red tides and mass mortalities,

  (2) their family ties, and

  (3) the knowledge networks underpinning fisheries and climate change adapatation decisions.

- We used Exponential Random Graph Models to distiguish between the role of family ties and shared beliefs about resilience in driving the structure of the knowledge networks.

Results and discussion

- The slight majority (57%) of respondents believed they have been resilient to red tides in the past.

- Shared beliefs about resilience were not a significant predictor of the knowledge networks.

- Fishers were 92% (log-odds = 2.437) more likely to form knowledge sharing ties with family members than non-family members.

- Our findings suggest:

  (1) local norms around family are critical to consider when advancing adaptation; and

  (2) family members have divergent beliefs about their resilience.

- The implications:

  (1) The diversity of perceptions within family networks could promote more creativity in solving adaptation-related problems.

  (2) The diversity of perceptions also suggests that a clear vision for adaptation could be lacking at the community-level.