

OPENING THE CAN OF WORMS:

EXPLORING PSYCHOLOGICAL NETWORK ANALYSIS AS A NEW TOOL

FOR UNDERSTANDING ORGANIZATIONAL CULTURE

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INTRODUCTION

How culture is typically defined in I-O Psych:

- Pattern of culture elements held by members of an organization (Schein, 1990)
 - *Culture elements* = behaviors, attitudes, and/or perceptions
 - *Held* = shared across members
 - *Pattern* = assumed to interact

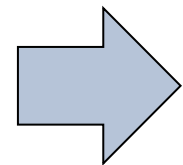
Interest in organizational culture

- Predictive validity over employees' behaviors and perceptions (Innovation; Büschgens, 2013; Effectiveness; Hartnell et al., 2019; Knowledge sharing; Witherspoon et al., 2013)

INTRODUCTION

Relevance for selection & recruitment:

- P-O fit often conceptualized as cultural fit
 - *Cultural fit* = behaviors, attitudes, and/or perceptions
- Selection & Recruitment = selecting for cultural fit (Barrick & Parks-Leduc, 2019)



Interconnected pattern

*Annual Review of Organizational Psychology and
Organizational Behavior*

Selection for Fit

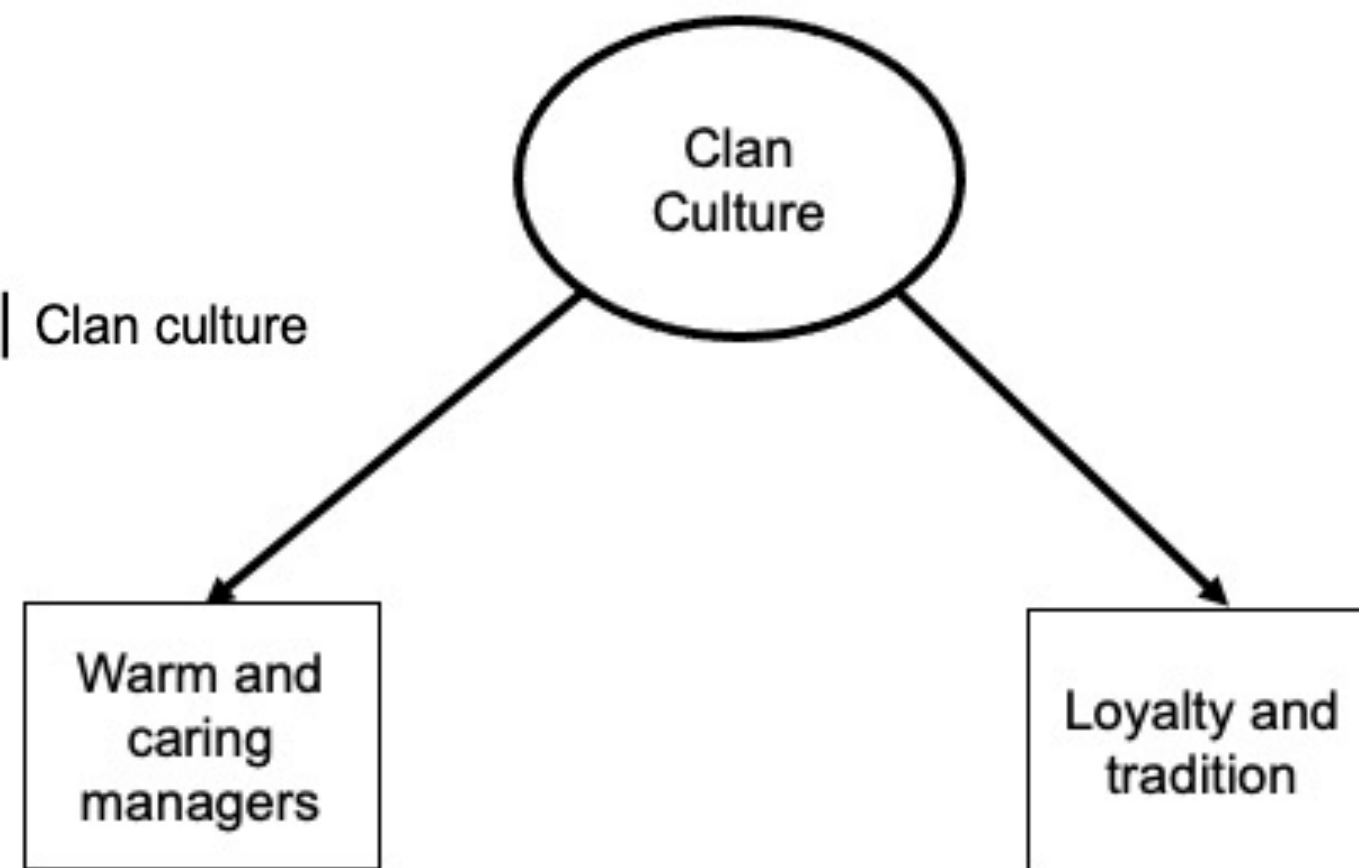
Murray R. Barrick¹ and Laura Parks-Leduc²

INTRODUCTION

Contemporary methods of modelling culture

- Culture dimensions: unobserved latent factor (e.g., hierarchy dimension from the Competing Values Framework; Quinn & Rohrbaugh, 1983)
- Culture dimensions are measured by assessing culture items or *elements*
 - Values, behaviors, assumptions (cf. Schein, 1990)
 - “My facility emphasizes permanence and stability” (hierarchy dimension)
- Underlying assumption:

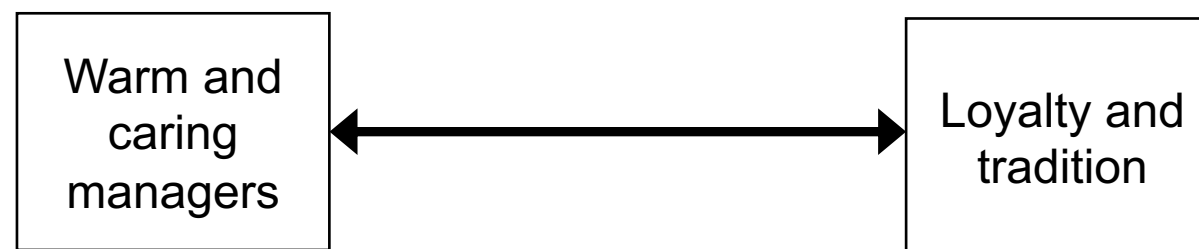
Warm and caring leaders \perp Loyalty and tradition | Clan culture
Warm and caring leaders $\not\perp$ Loyalty and tradition



INTRODUCTION

Why we should dare to challenge this perspective

- Theoretical arguments: Is culture best represented as a set of latent factors?
 - Schein (1990): culture as a *pattern*; Schall (1983): culture as a *web*
 - *Can of worms*: elements are intertwined and form a *fuzzy set* (Laurent, 1990, p. 12)
- Empirical arguments: Methodological assumptions often violated
 - Causal, logical relations between indicators within dimensions (Caring leaders evoke loyalty; Bono & Judge, 2004; Eisenberger et al., 2019)
 - Causal, logical relations between indicators across dimensions (*Formal rules and rank-based distribution* (hierarchy) differently associated with commitment to innovation (adhocracy); Hirst et al., 2011; Kim et al., 2021)

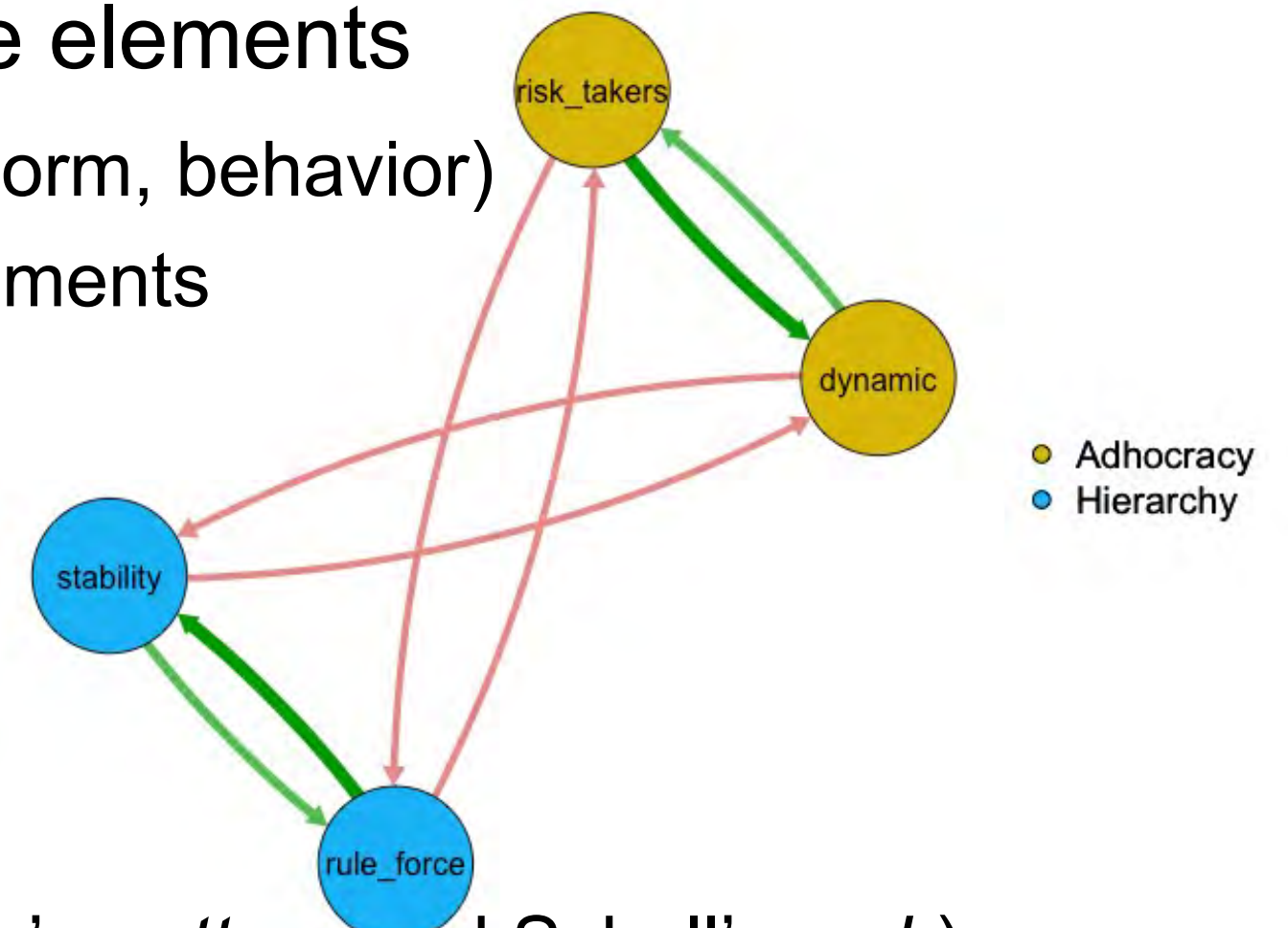


FRAMEWORK FOR CULTURE AS A NETWORK

Main ideas / principles

1. Culture as a system of interconnected culture elements

- Culture elements = unique entities (e.g., value, norm, behavior)
- Unique pattern of cause and effect with other elements
- Nodes (elements) and edges (associations)



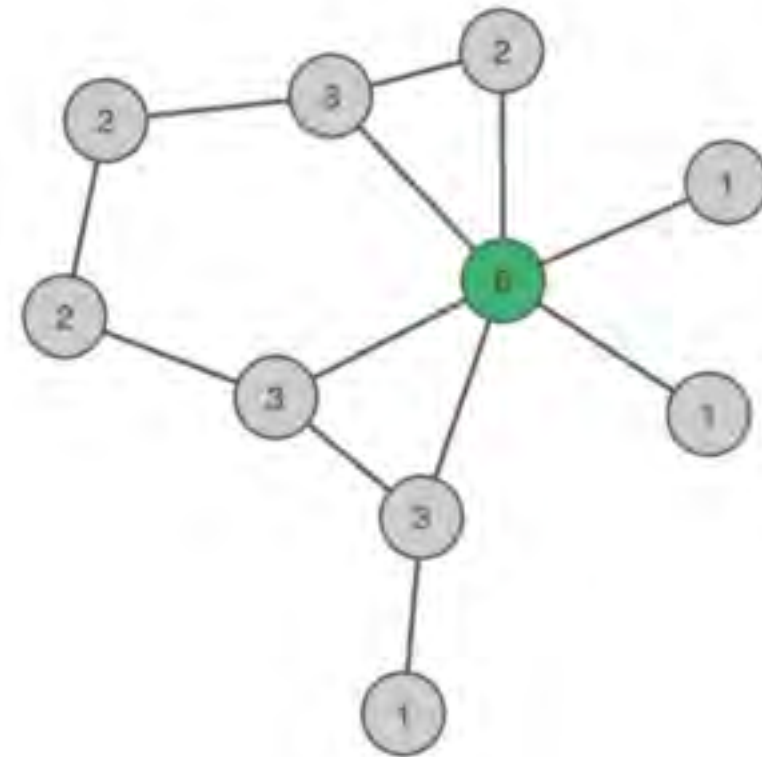
- In line with pioneering conceptualizations (Schein's *pattern* and Schall's *web*)
- Answers to the call by Hartnell (2011, p.687) to explore the “synergistic interaction”

FRAMEWORK FOR CULTURE AS A NETWORK

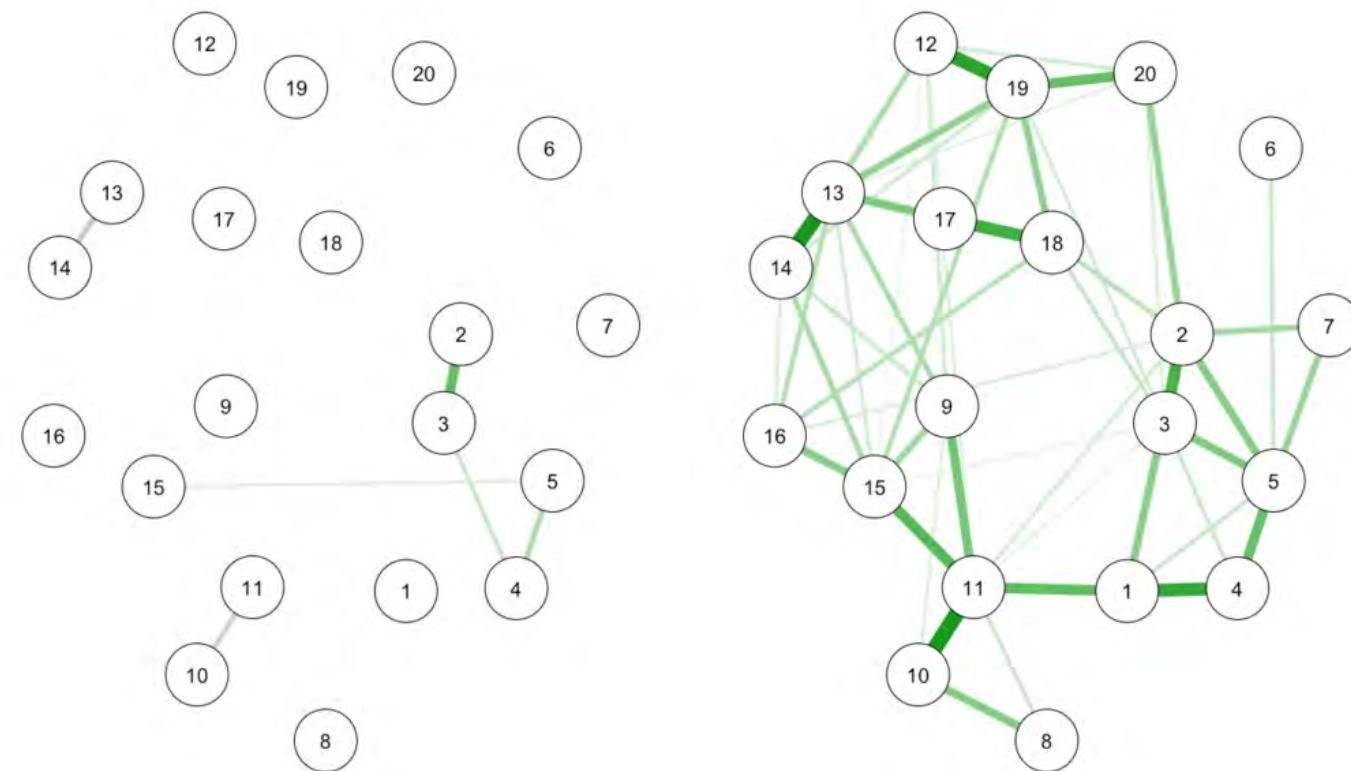
Main ideas / principles

2. The network itself informs about the phenomenon under study (i.e., culture)

➤ Centrality



➤ Connectivity



RESEARCH DESIGN

Data Collection

- Organization A
 - Belgian health care sector
 - Competing Values Framework
 - N = 400
 - April 2019

- Organization B
 - Belgian public service company
 - Competing Values Framework
 - N = 4270
 - June 2021

INSTRUMENTS

Competing Values Framework

- 16 items; 4 per culture dimension
 - Hierarchy: control, efficiency, and timeliness
 - Adhocracy: creative, innovative, dynamic
 - Clan: communication, commitment, development
 - Market: external competition, productivity, and goal achievement
- Dutch translation of Shortell (1995) adaptation
- 7-point Likert scale (1 = *Strongly disagree* to 7 = *Strongly agree*)
- Goldbricker algorithm used to determine if nodes indeed elicit different patterns ($p < 0.01$)

DESIGN

Exploratory

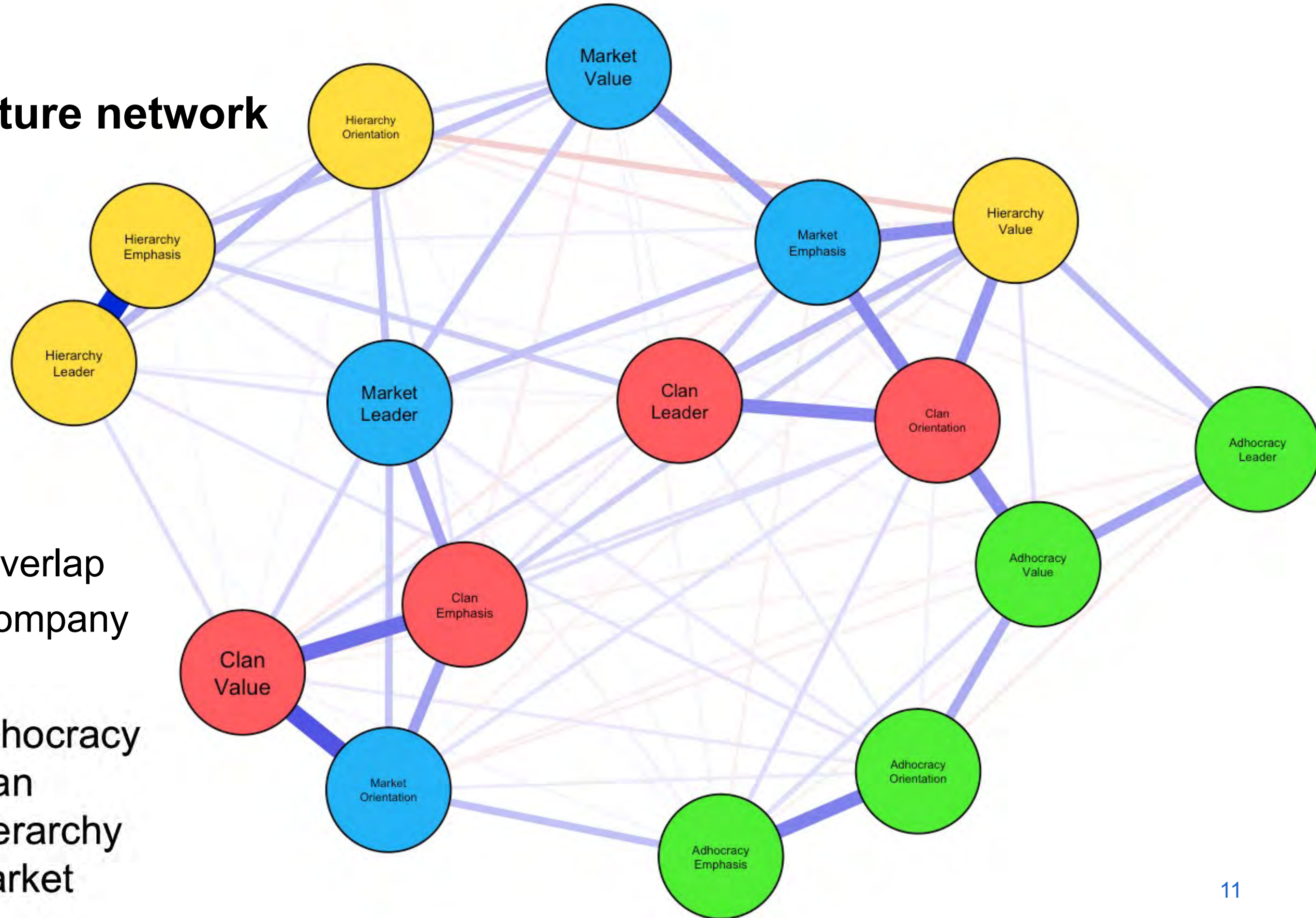
- Examine the culture network
- Centrality stability
 - Order of centrality after bootstrapping data
- Edge weight accuracy
 - Confidence intervals around edge weights

Hypothesis

- Centrality of leadership culture elements (Hypothesis 1)
- Connectivity differences between high-tenure and low-tenure (Hypothesis 2)
 - CAN-theory: tenure → exposure to culture → denser network

RESULTS

Exploratory culture network



- No topological overlap
- Public service company

- Adhocracy
- Clan
- Hierarchy
- Market

RESULTS

Exploratory culture network comparison

- Substantial differences observable between organizations
- Inspect cultural differences between organizations

Public Service Organization



Health Care Organization

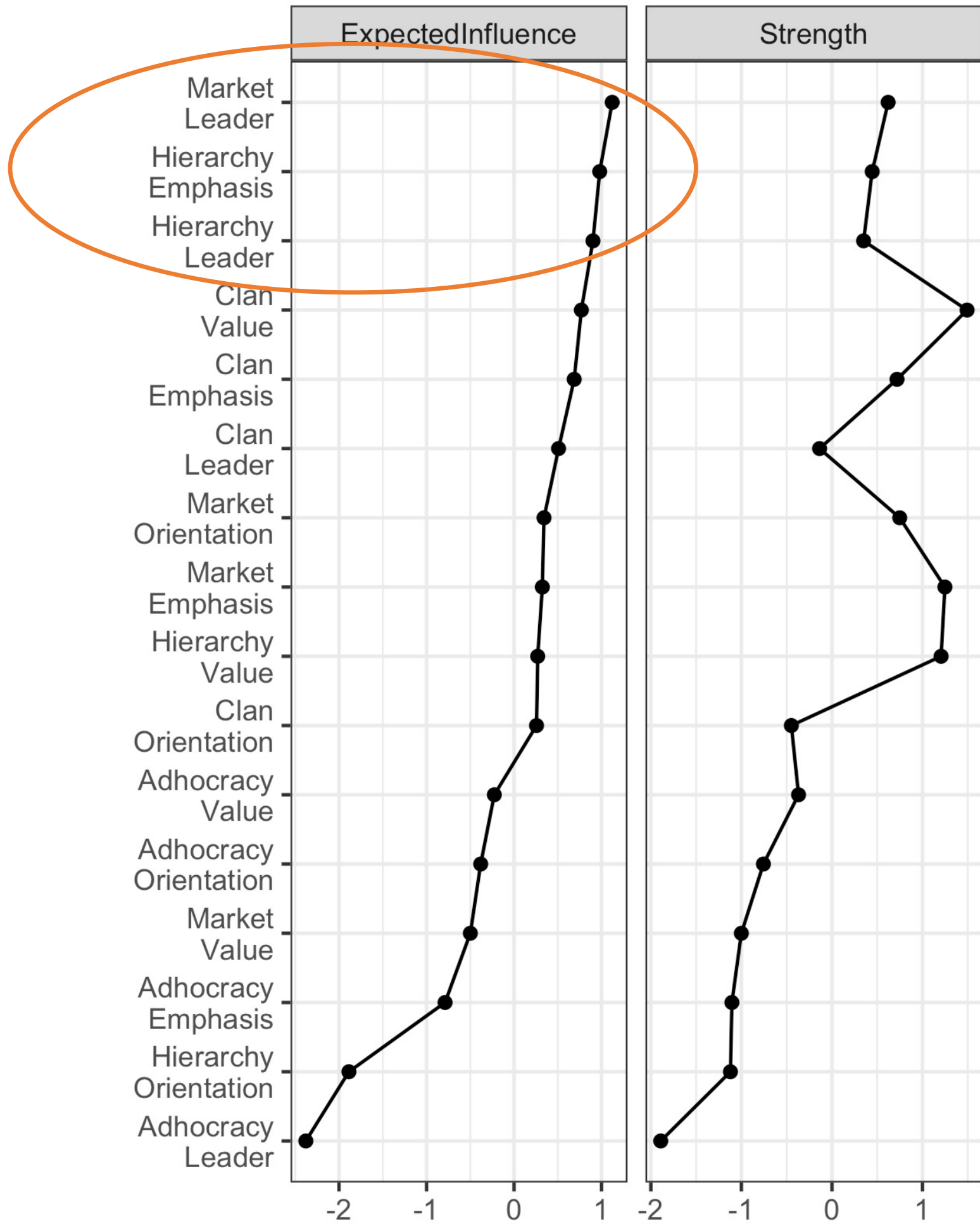


RESULTS

Centrality

- Partial support for H1
- Red circle: most central nodes

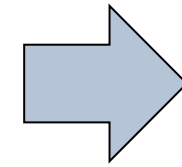
➔ Leadership structurally important for cultural change?



RESULTS

Connectivity

- No support for H1
- Unexpected finding (cf. structure)



More research needed



- Adhocracy
- Clan
- Hierarchy
- Market

CONTRIBUTIONS

1. Introduce the network approach to organizational culture research

- Psychological network analysis (PNA)
- Theory building

2. Enhance our understanding of culture

- Cultural differences with connectivity and centrality
- Cultural change with centrality

DISCUSSION

Future research

- Much to learn about the underlying dynamics of culture systems
- Are cultural change interventions aimed at central elements (more) effective?
- Clustering of culture elements?

Implications for practice

- Fine-grained insight in the building blocks of an organizational culture
- Working with “*culture fit*” starts with understanding your organizational culture

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