



# Asymmetries in Structural Adaptability: Dynamic Aspects of Centralizing and Decentralizing

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# Michigan State's Role in A2C2

- Build Basic Theory in Scaling Structures and Structural Movement
- Develop an Applied Psychology of Structural Variation
- Perform Large Sample Research with Human Research Participants

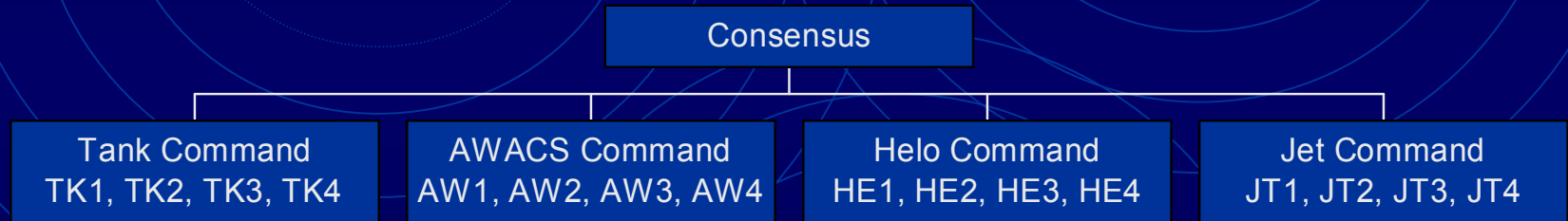
# Key Aspects of Organizational Structure

- Departmentation
  - Functional or Divisional
- Centralization
  - Hierarchical or Distributed
- Adaptability
  - Fixed or Reconfigurable

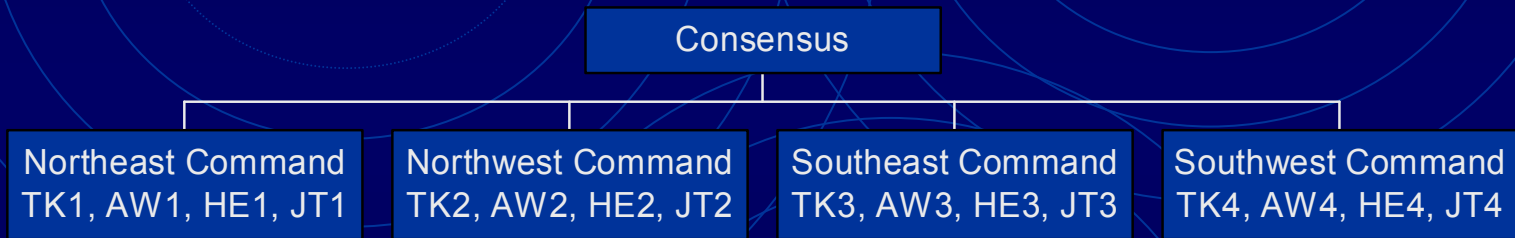
# Defining Centralization and Departmentation

- Centralization: The degree to which decision making authority rests with a single team leader (centralized) or is distributed to team members who can all make autonomous decisions for themselves (decentralized)
- Departmentation: the degree to which work units are grouped based upon functional similarity (functional) or on geographic/product market differentiation (divisional).

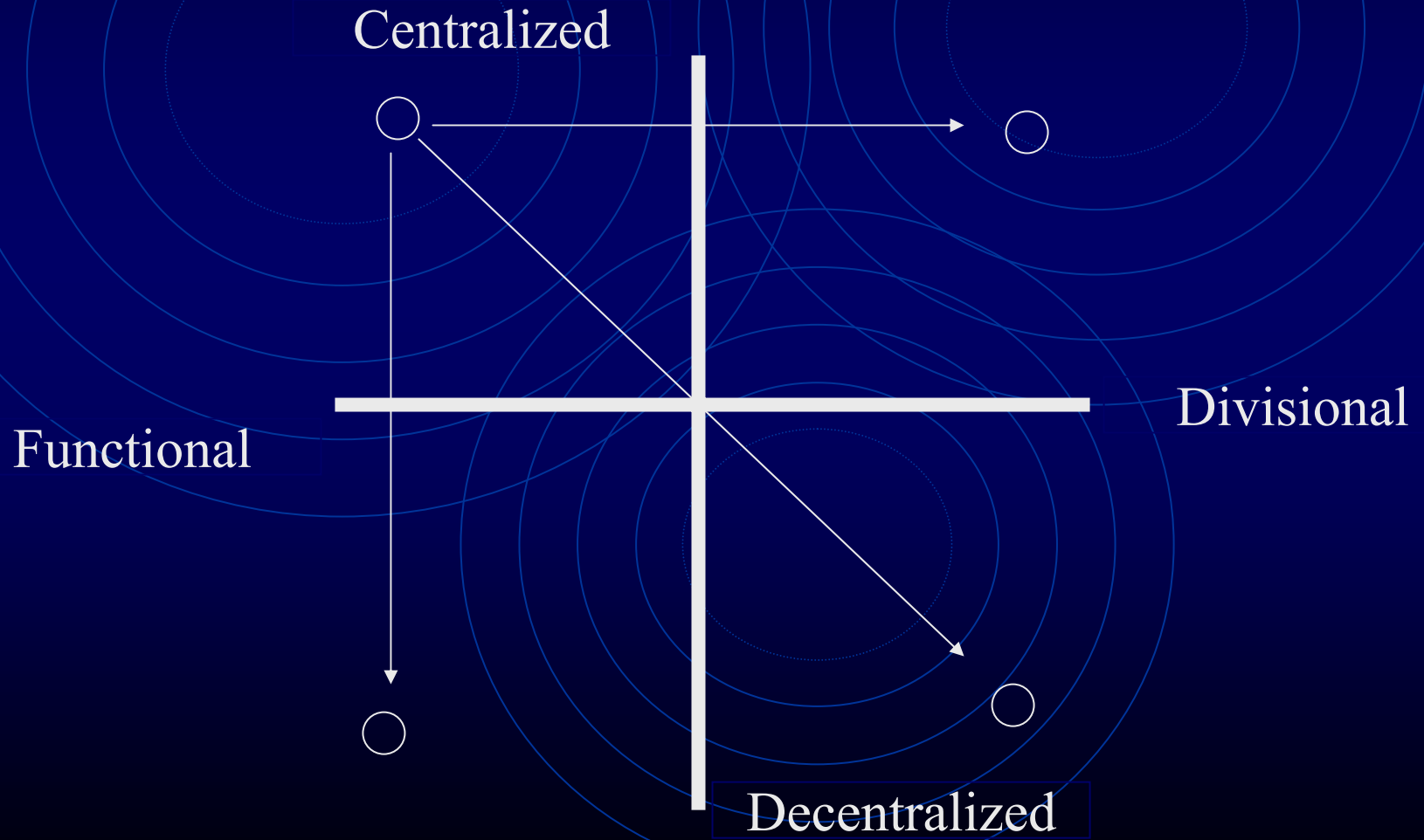
# Functional Structure



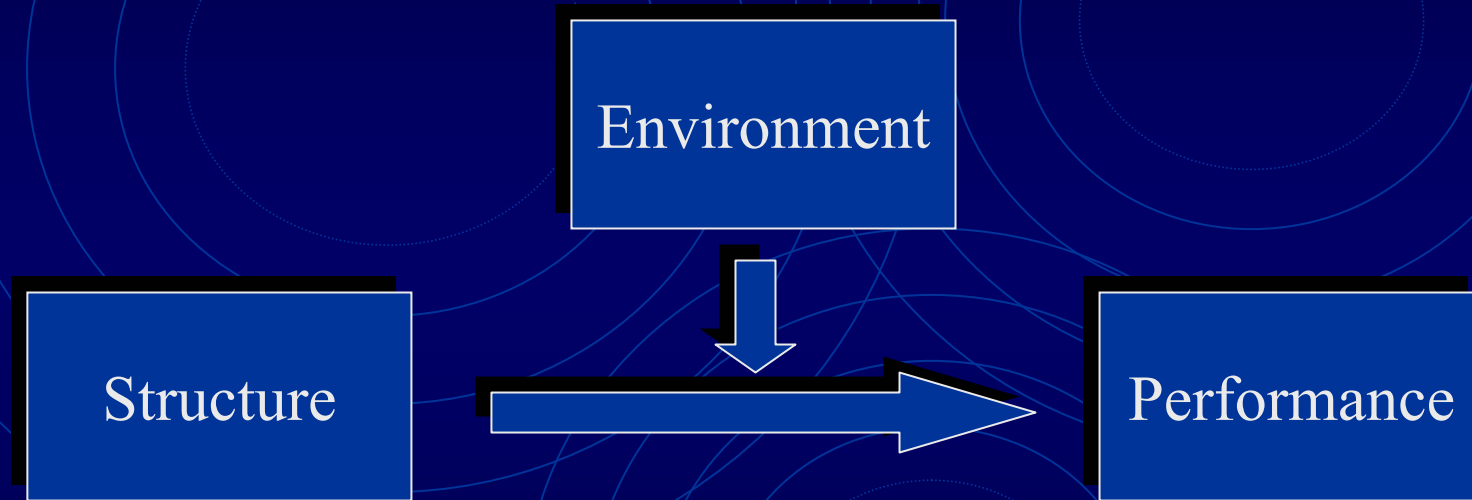
# Divisional Structure



# The Theoretical Space for Alternative Idiosyncratic Team Structures



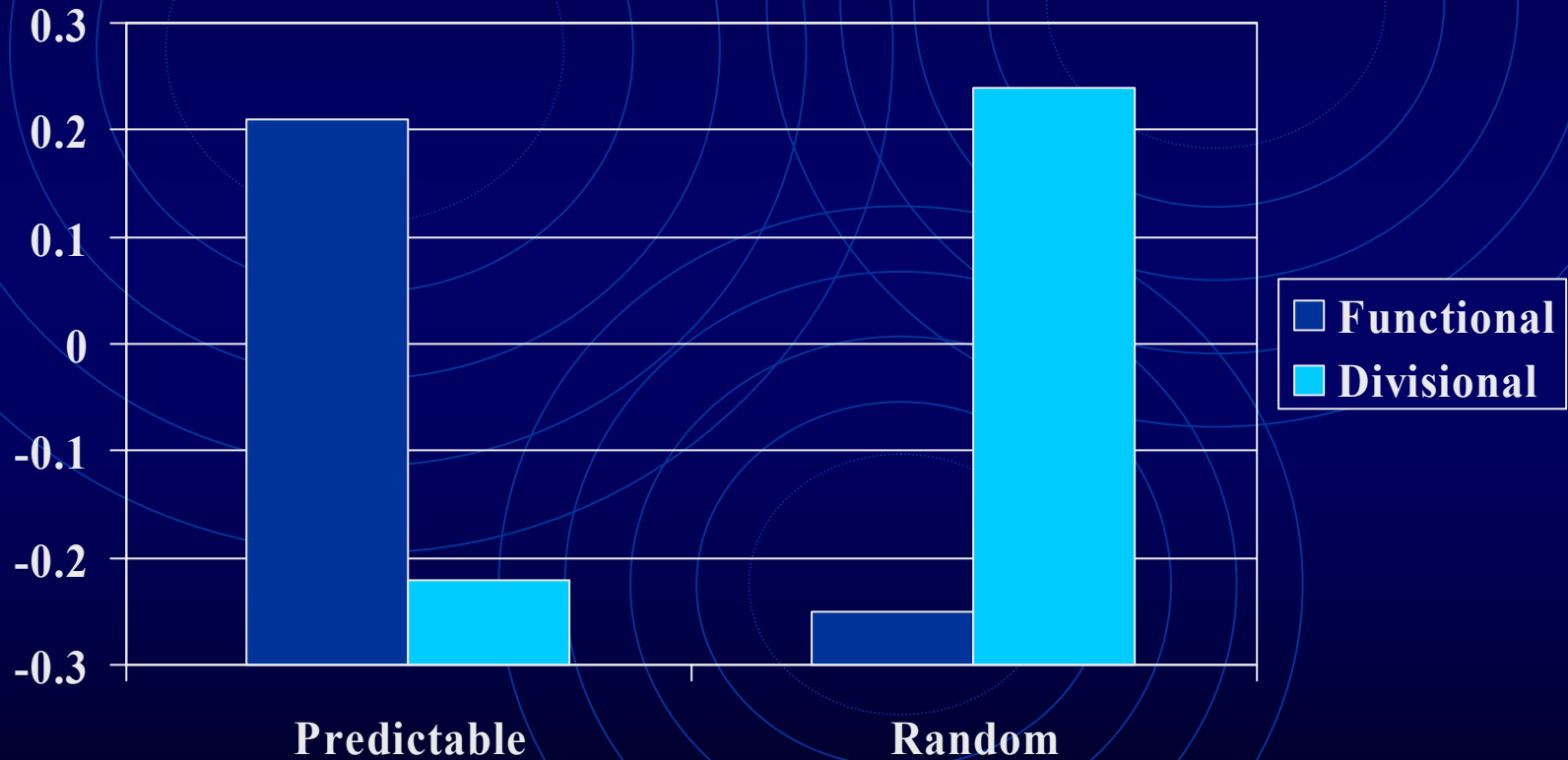
# Major Proposition from Structural Contingency Theory



In predictable environments, functional structures are best because of efficiency; in unpredictable environments, divisional structures are best because of enhance flexibility



# Interactive Effects of Structure and Environment on Team Performance

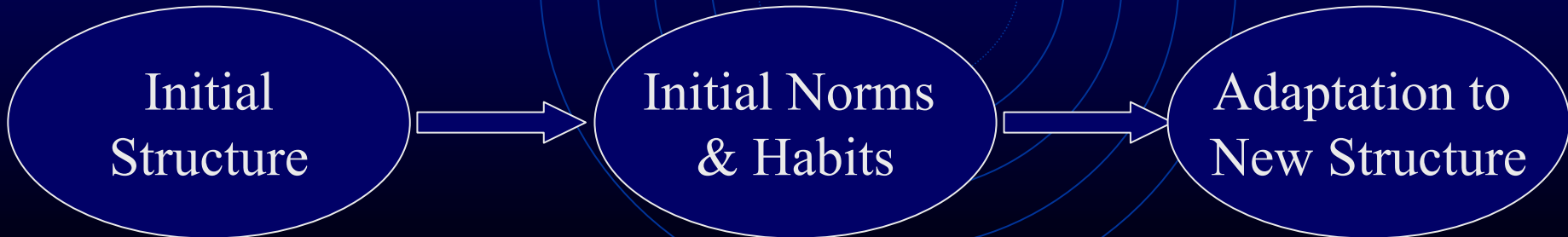


# Asymmetry in Structural Movement at the Sub-unit level

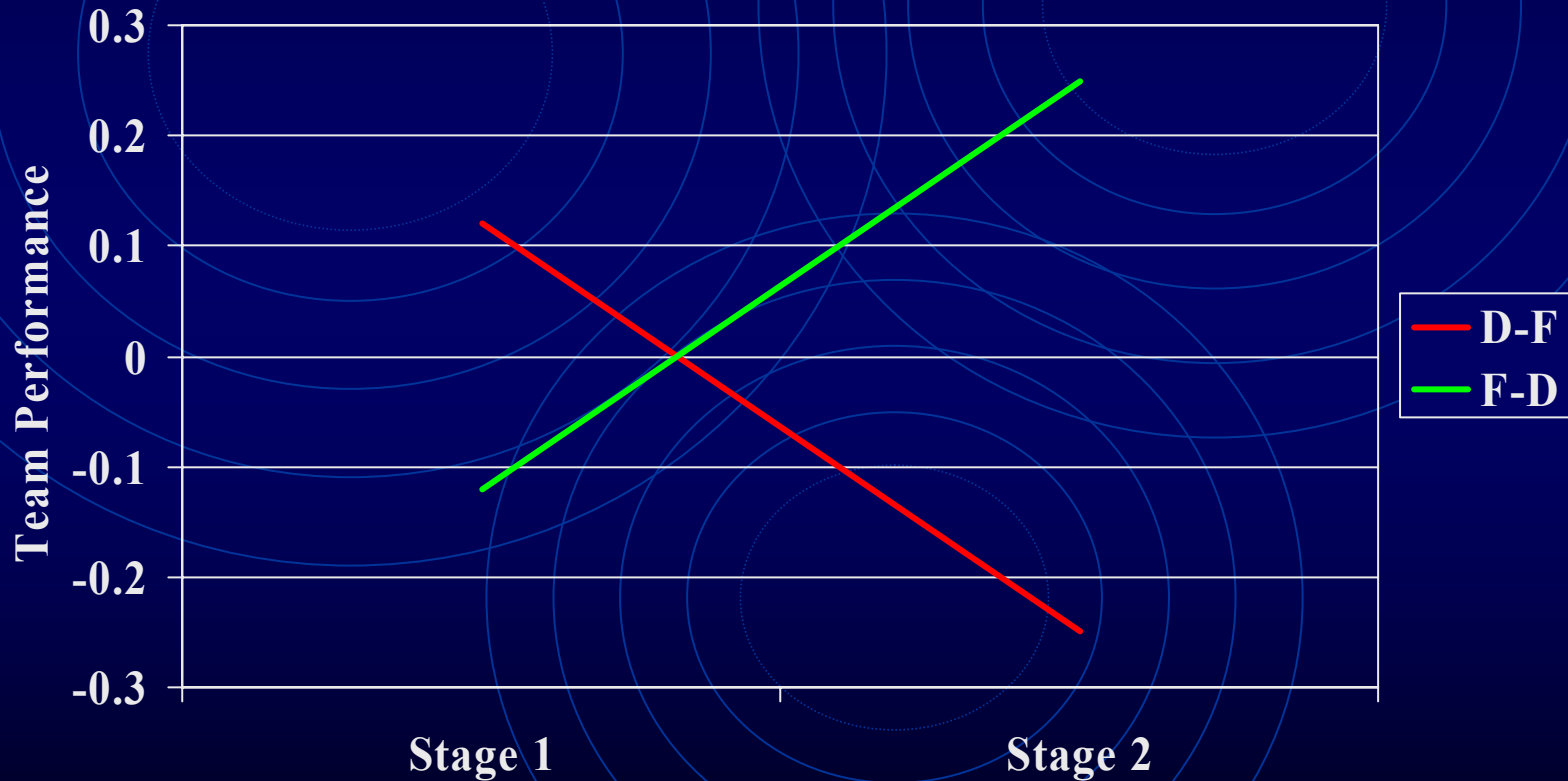
- Between versus Within Subject Designs
- Entrainment Theory” (Ancona and Chong, 1996): defines entrainment as: “Symbiotic adjustments where independent organisms adjust their the pace and activity to match or synchronize with the pace and activity of other interdependent organisms”
- Key Proposition of Entrainment Theory: once a pace and set of interaction patterns are in place, they persist over time, often well beyond rational considerations

# Implications of Entrainment Theory for Structural Adaptation

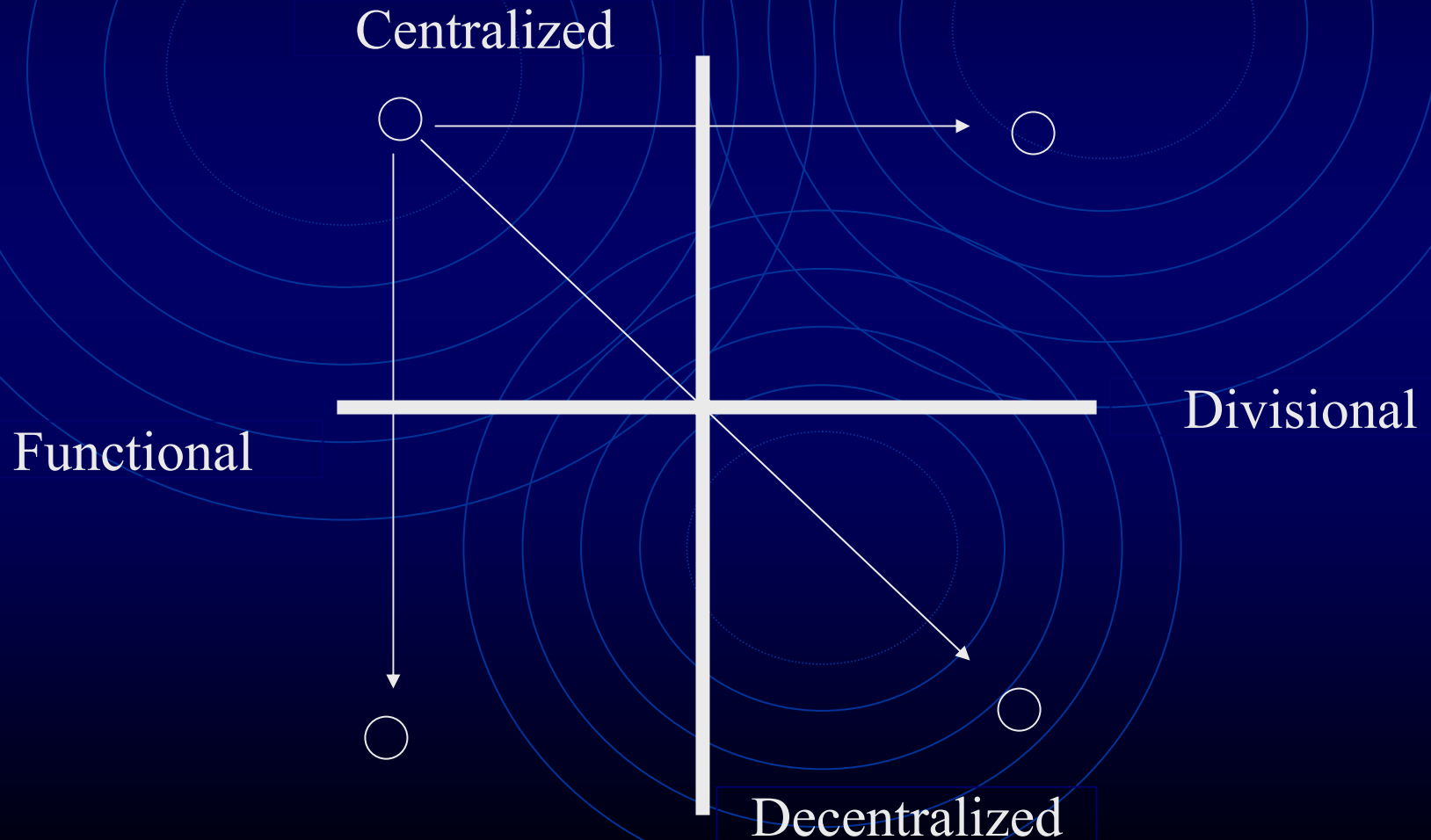
- Norms and habits entrained within functional structures:
  - interdependence
  - emphasis on teamwork
  - communication
- Norms and habits entrained within divisional structures
  - independence
  - emphasis on taskwork
  - concentration



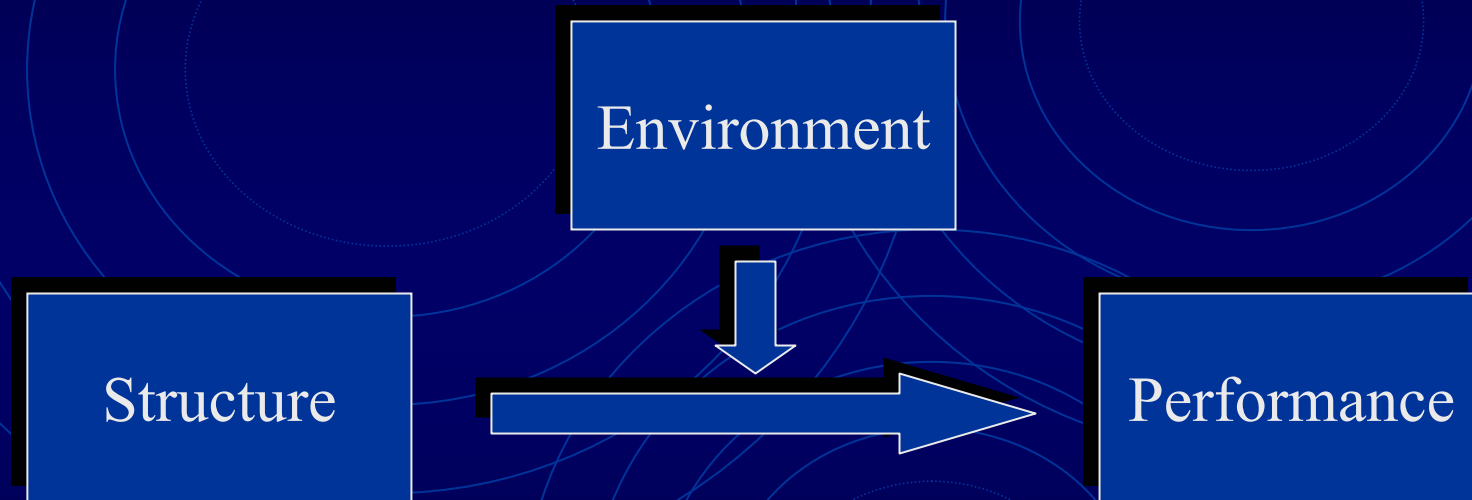
# Asymmetry in Team Adaptability: Stage 1 versus Stage 2 Performance



# Structural Contingency Theory: Implications for Adaptation in Cyclical Environments



# Major Proposition from Structural Contingency Theory



Centralized structures are superior for environments that demand error control and coordination, but decentralized structures are superior if the environment demands speed and learning of new contingencies

# Advantages and Disadvantages of Alternative Structures

- Centralized Structures

- Promotes error control because the single authority insures adherence to rules
- Promotes coordination because single authority insures actions of separate units do not duplicate or counteract each other

- Lack of Centralization

- “Loose cannons”
- “Right hand does not know what the left hand is doing”

- Decentralized Structures

- Promotes speed because members can initiate action immediately
- Promotes learning because members are better at detecting change & local contingencies

- Lack of Decentralization

- “Sluggish & Lumbering”
- “Insensitive & Unresponsive”

# Implication of Structural Analysis

- Static:
  - Employ centralized structures if the goal is error control and coordination
  - Employ decentralized structures if the goal is speed and responsiveness to change
- Dynamic:
  - If you want to increase error control and coordination, then become more centralized
  - If you want to increase speed and responsiveness to change, then become more decentralized

*Note that the dynamic prescription could be invalid even if the static prescription is valid*

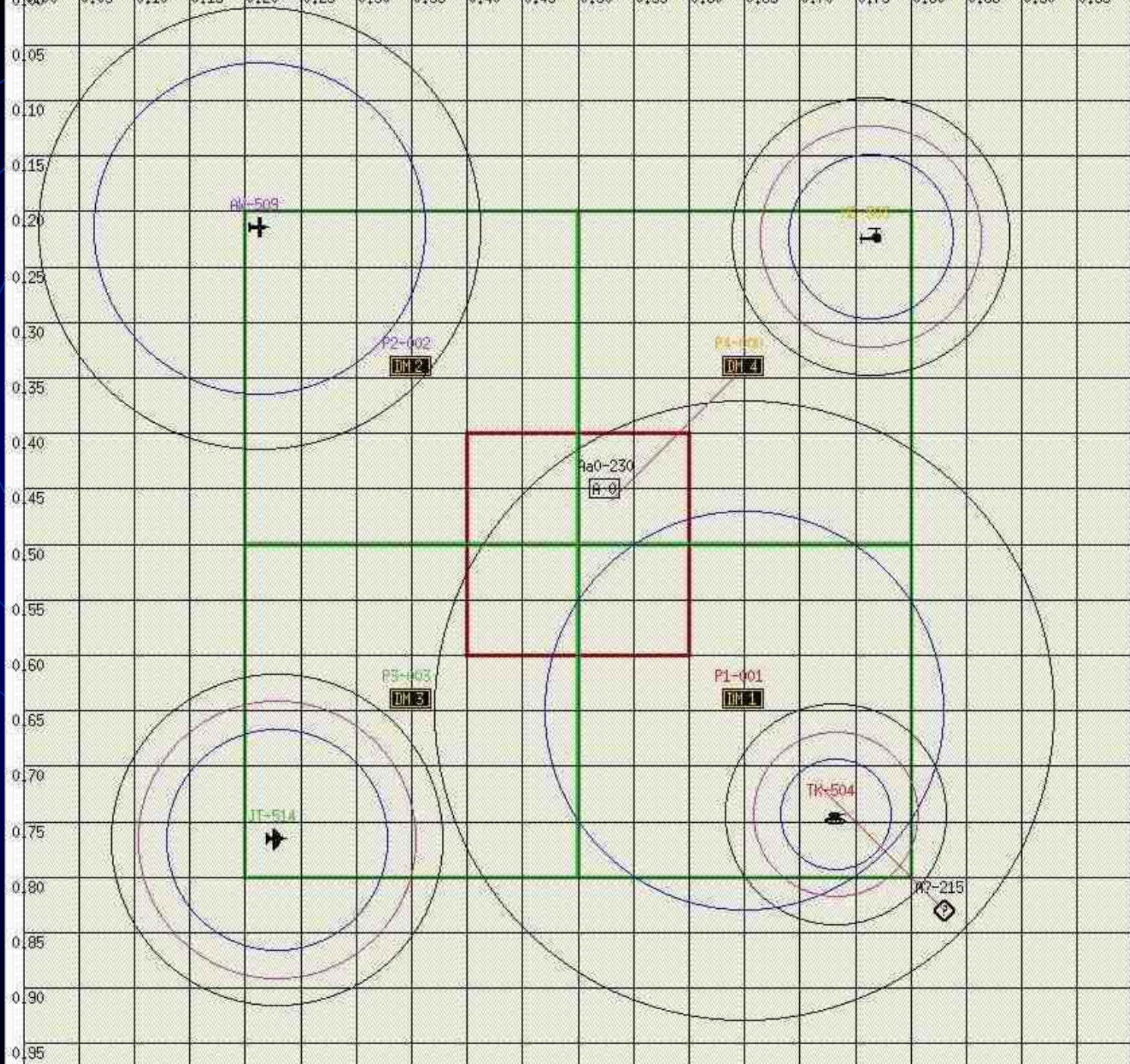


# Dynamic Analysis of Structural Change

- Centralized to Decentralized: A majority of team members experience an increase in their own personal discretion and power
- This change in direction is consistent with
  - Theories of Human Development (Erikson, 1978)
  - Theories of Work Motivation (Hackman and Oldham, 1975)
- Decentralized to Centralized: A majority of team members must relinquish discretion and power

# Research Methods

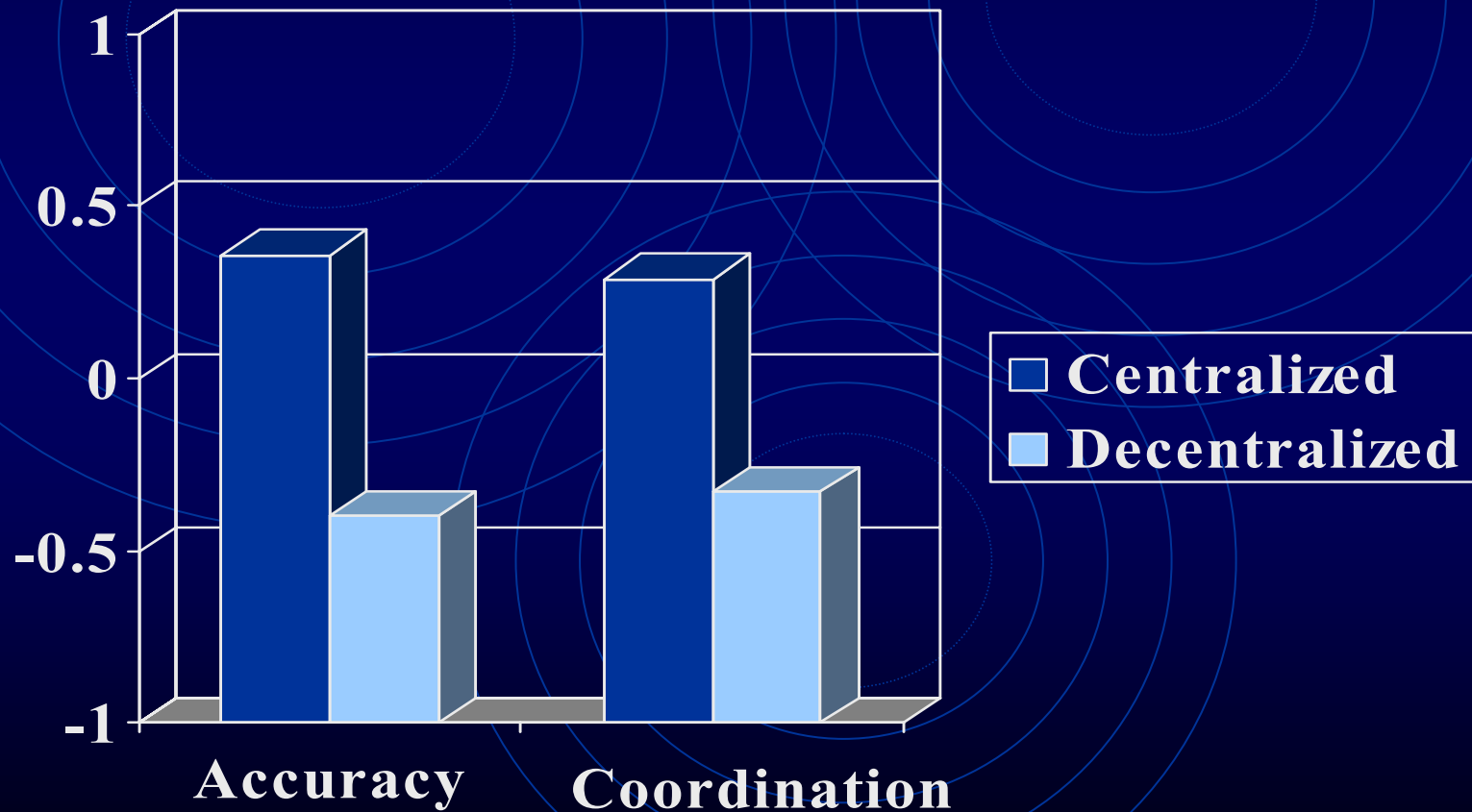
- Participants: 93 four-person teams
- Task: MSU-DDD Simulation
- Manipulations and Measures
  - Structural Sequence
    - Fixed Structures (CC, DD)
    - Centralized to Decentralized (CD)
    - Decentralized to Centralized (DC)
  - Cognitive Ability and Personality



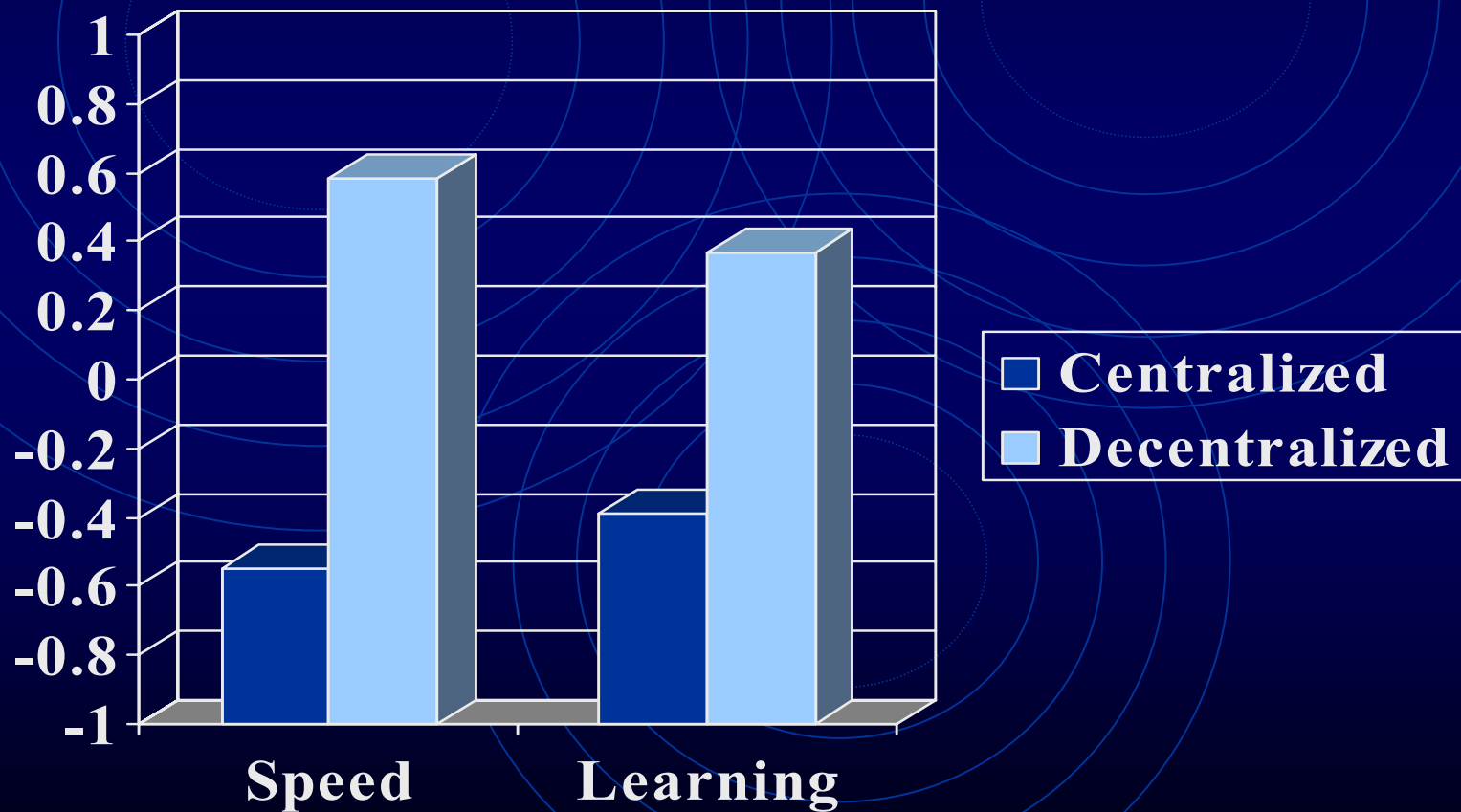
# Dependent Variables

- *Accuracy*: the frequency of decision making errors
- *Coordination*: the frequency of cross-boundary support
- *Speed*: the amount of time it took to successfully engage tracks
- *Learning*: the ability to learn the nature of novel tracks (not part of original training)

# Positive Effects for Centralized Structures at Stage 1



# Positive Effects for Decentralized Structures at Stage 1

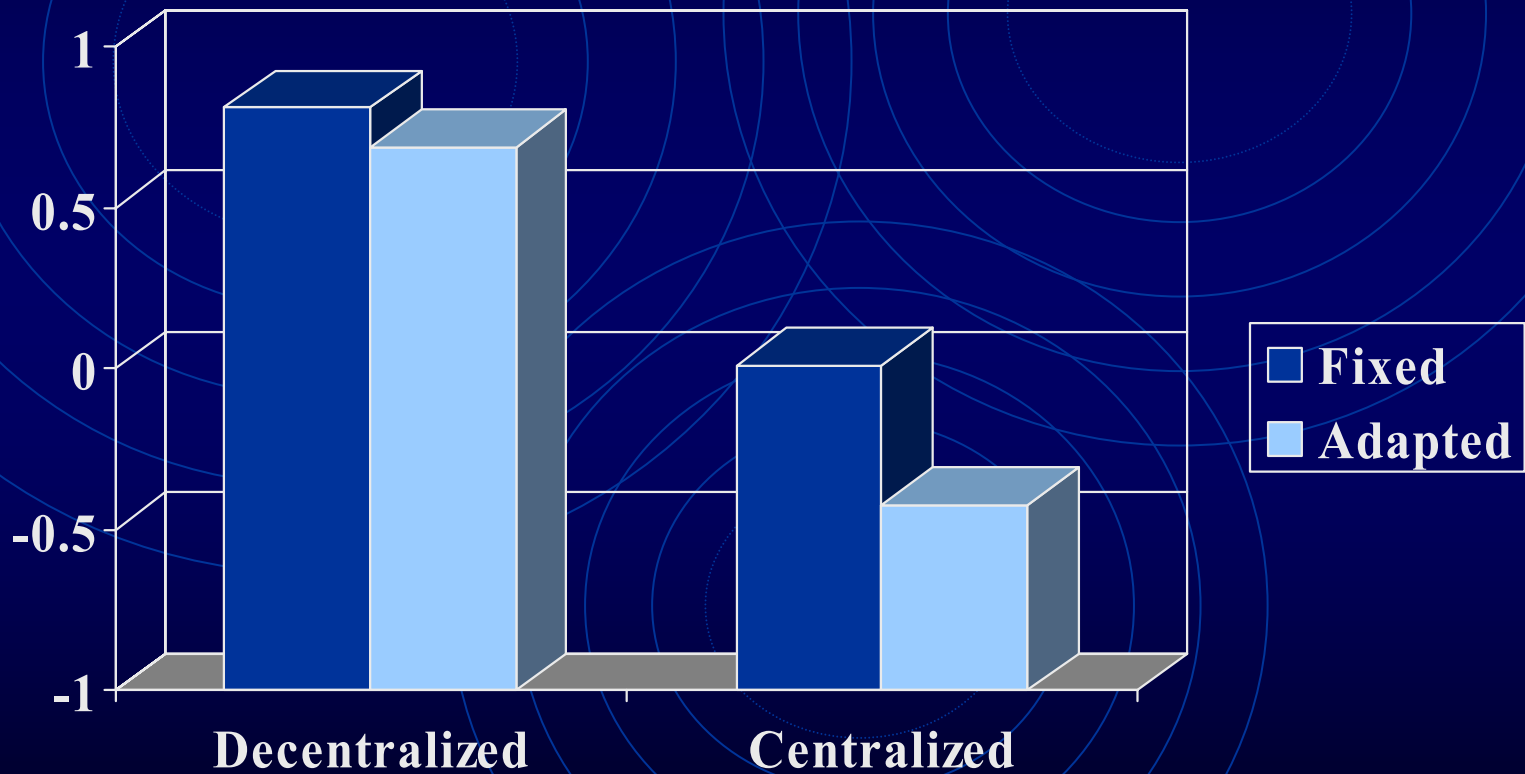


# Effects of Centralizing Structures at Stage 2 on Accuracy and Coordination

- No statistically significant differences between DD and DC on accuracy
- No statistically significant differences between DD and DC on coordination

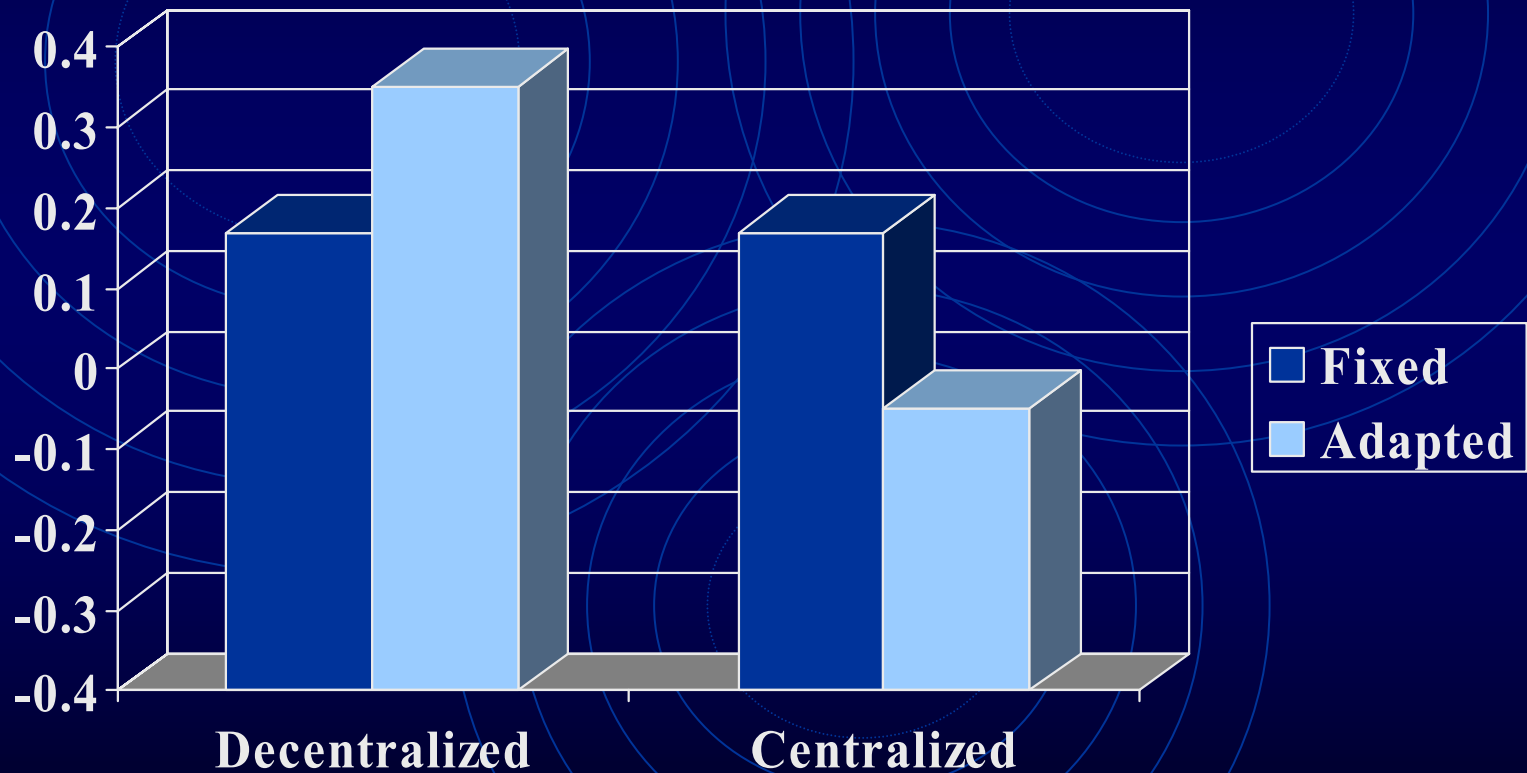
Teams changing from decentralized to centralized structures did not experience the benefits of centralized structures that one might expect based on at Stage 1 results

# Effects of Decentralizing Structures at Stage 2 on Speed





# Effects of Decentralizing Structures at Stage 2 on Learning



# Effects of Centralizing Structures at Stage 2 on Speed and Learning

- Centralized structures are slower in general, but this was especially true for teams that *changed* from decentralized into centralized structures
- Both types of fixed structures learned equally well at Stage 2
- Teams that adapted from centralized to decentralized structures scored highest in learning, whereas the worst scores for learning were experienced by teams that *changed* from decentralized into centralized structures

Teams changing from decentralized to centralized structures experience the liabilities of centralized structures, and in some cases, experience these more severely than teams in fixed centralized structures

# Future Research Needs: Team Structures

- Adapting on Both Dimensions of Structure at Once: Mechanistic versus Organic Structures
- Process Adaptation and Training as an Alternative to Structural Change
- Transitional structures that move half-way or sequential structures that move in smaller increments

# Future Research Needs: Contingency Theories

- Generalizability of Asymmetrical Adaptability to other Theories
- Social Interdependence Theory and Cooperative versus Competitive Reward Structures
- Theories of Leadership Style: Autocratic versus Consensus-Based Approaches

# The Bottom Line

- Recognizing the potential need to complement the static logic behind many contingency theories with a dynamic logic that explicitly challenges the assumption of symmetrical adaptation
- Recognizing the possibility that adaptability is not a generic process or characteristic, but rather is directional, requiring an assessment of “from what, to what”