

# Adapting to Reductions in Team Size:

## *An Examination of Three Structural Alternatives*

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# Program of Research: Team Adaptation

## *Evolution of research on team adaptation...*

Recent Studies	Form of Adaptation	Publication Status
Team Adaptation & Postchange Performance: Effects of Team Composition in Terms of Members' Cognitive Ability and Personality	<b>Role structure adaptation</b> as a means of adapting to communication losses during the course of performing a task	Published in <i>Journal of Applied Psychology</i> , 2003, 88, 1, 27-39
Backing Up Behaviors in Teams: The Role of Personality and Legitimacy of Need	<b>Backing up behaviors</b> as a form of adapting to new adversary tactics	Published in <i>Journal of Applied Psychology</i> , 2003, 88, 3, 391-403
Team Learning: Collectively Connecting the Dots	<b>Team learning</b> as a means of adapting to new adversary technology	Published in <i>Journal of Applied Psychology</i> , 2003, 88, 5, 821-835
Asymmetric Adaptability: Dynamic Team Structures as One-Way Streets	<b>Horizontal resource allocation structural changes</b> may not be as easy to make in one direction as they are in the other	Published in the <i>Academy of Management Journal</i> , 2004, 47, 5, 681-695
The Asymmetric Nature of Structural Adaptation: The Impact of Centralizing and Decentralizing on Group Outcomes	<b>Vertical decision-making authority structural changes</b> may not be as easy to make in one direction as they are in the other	Manuscript under revision, to be submitted to the <i>Journal of Applied Psychology</i>

# Purpose of Current Study

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*Theme: Structural responses to reductions in team size*

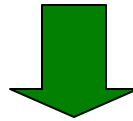
- Examine three structural alternatives for adapting to reductions in team size
- Examine contingencies in structural choice
  - Best structural alternative depends on team compositional factors – specifically team-level personality
    - Conscientiousness
    - Emotional stability
    - Extraversion

# Why is Adapting to Downsizing Important?

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*Downsizing is one mechanism organizations use to cope with environmental change...*

- Personnel and compensation costs account for \$141 Bn (35%) of DOD budget
- Air Force reducing active-duty force by 20k+ by end of 2005 (Hafemeister, 2005)
- Navy eliminating need for 25k sailors by the end of 2007 (Farem, 2005)

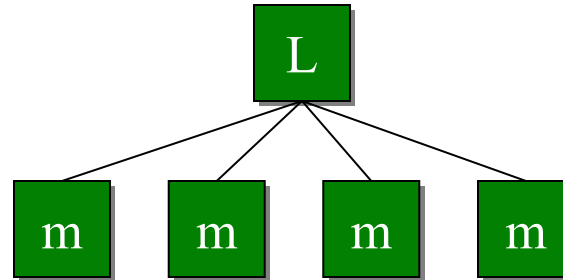


*However, limited guidance on how best to implement and manage downsizing initiatives*

# Structural Alternatives to Downsizing in Teams

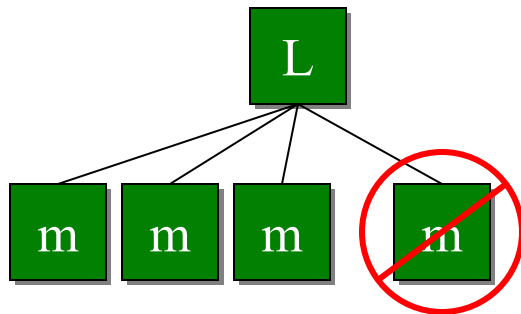
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*5-Person Team with  
Leader Hierarchy*



*Structural Alternatives to Reductions in Team Size*

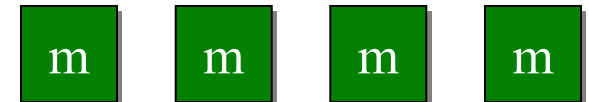
*Maintain Hierarchy*



*Integrate Hierarchy*



*Eliminate Hierarchy*



# Hypotheses: Basic Structural Alternatives

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- Cascio et al. (1997) show “pure employment downsizing” leads to substantial performance losses...
- However, these losses can be offset with structural adaptation (Cameron et al., 1991)

**Hypothesis 1a:** Teams that do not downsize (Control) will achieve superior levels of performance relative to all teams that experience downsizing

**Hypothesis 1b:** Within the teams that are downsized, the teams who adapt structurally to the downsizing (Integrate and Eliminate) will generally outperform those teams that do not adapt structurally (Maintain)

# Downsizing in Teams: A Contingency Perspective

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*Determining which structural alternative is best...*

- Contingency theory applied to:
  - Team performance (e.g., Hollenbeck et al., 2002)
  - Organizational adaptation (e.g., Lawrence & Lorsch, 1967)



- FFM of Personality (Barrick & Mount, 1991)
  - Conscientiousness
  - Emotional Stability
  - Extraversion

# Hypotheses: Contingency Perspective

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*Expect appropriateness of structural alternative to depend on team-level personality*

**Hypothesis 2:** Benefits of structural reallocation (Eliminate and Integrate) relative to non-downsizing (Control) and pure employment downsizing (Maintain) will be most pronounced in teams that are high in *conscientiousness*

**Hypothesis 3:** Benefits of structural reallocation (Eliminate and Integrate) relative to non-downsizing (Control) and pure employment downsizing (Maintain) will be most pronounced in teams that are high in *emotional stability*

**Hypothesis 4:** Benefits of structural reallocation (Eliminate and Integrate) relative to non-downsizing (Control) and pure employment downsizing (Maintain) will be most pronounced in teams that are high in *extraversion*



# Research Design

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## Sample

- 71 five-person teams (random assignment)
- Upper-level, undergraduate business students

## Command & Control Task

- DOD Distributed Dynamic Decision-Making (DDD)
- 4 assets (AWACS, tank, helicopter, jet)
- 12 unique tracks (3 friendly, 9 enemy)

## Training

- 15-minute instructional video
- 60-minutes of hands-on training with supervised instruction

## Manipulations

- Teams randomly assigned to 4 conditions
  - Control
  - Maintain
  - Integrate
  - Eliminate

# Results – Basic Descriptives & Correlations

Variable	Mean	s.d.	1	2	3	4	5	6	7
1. Maintain	.26	.44							
2. Integrate	.25	.44	-.35*						
3. Eliminate	.24	.43	-.33*	-.32*					
4. Conscientiousness	3.80	.23	.10	-.02	-.14				
5. Emotional Stability	3.45	.24	.01	-.05	-.03	.23*			
6. Extraversion	3.64	.21	-.04	.15	-.23*	.42*	.28*		
7. Team Performance	.09	1.49	-.24*	-.14	.16	.06	.10	.09	

N = 71 teams

\* P < .05 (two-tailed)

# Results – Hypothesis 1a & 1b

*Regarding team performance, we hypothesized:*



## Results of Regression Analysis of Performance on Downsizing Approach

Step	Independent Variable	$\beta$	Total R <sup>2</sup>	$\Delta R^2$
1	Game 1 Performance	.27*	.10*	.10*
2	Maintain	-.96*	.20*	.10*
	Integrate	-1.06*		
	Eliminate	-.15		

N = 71 teams  
\* P < .05 (two-tailed)

*Find general support for Hypothesis 1*

# Results – Hypothesis 2

*Expect benefits of structural adaptation to be most pronounced in highly conscientious teams*

**Results of Regression Analysis of Performance on Downsizing Approach**

Step	Independent Variable	$\beta$	Total R <sup>2</sup>	$\Delta R^2$
1	Game 1 Performance	.27**	.10**	.10**
2	Maintain	-.96**	.20**	.10**
	Integrate	-1.06**		
	Eliminate	-.15		
3	Conscientiousness	.00	.20**	.00
4	Maintain X Cons.	.33	.29**	.09*
	Integrate X Cons.	3.57*		
	Eliminate X Cons.	4.74**		

N = 71 teams. \* P < .10 (two-tailed)

\*\* P < .05 (two-tailed)

# Results – Hypothesis 3

*Expect benefits of structural adaptation to be most pronounced in highly emotional stable teams*

**Results of Regression Analysis of Performance on Downsizing Approach**

Step	Independent Variable	$\beta$	Total R <sup>2</sup>	$\Delta R^2$
1	Game 1 Performance	.27**	.10**	.10**
2	Maintain	-.96**	.20**	.10**
	Integrate	-1.06**		
	Eliminate	-.15		
3	Emotional Stability	.56	.21**	.01
4	Maintain X Emo. St.	-.93	.29**	.08*
	Integrate X Emo. St.	.29		
	Eliminate X Emo. St.	3.63*		

N = 71 teams. \* P < .10 (two-tailed)

\*\* P < .05 (two-tailed)

# Results – Hypothesis 4

*Expect benefits of structural adaptation to be most pronounced in highly extraverted teams*

**Results of Regression Analysis of Performance on Downsizing Approach**

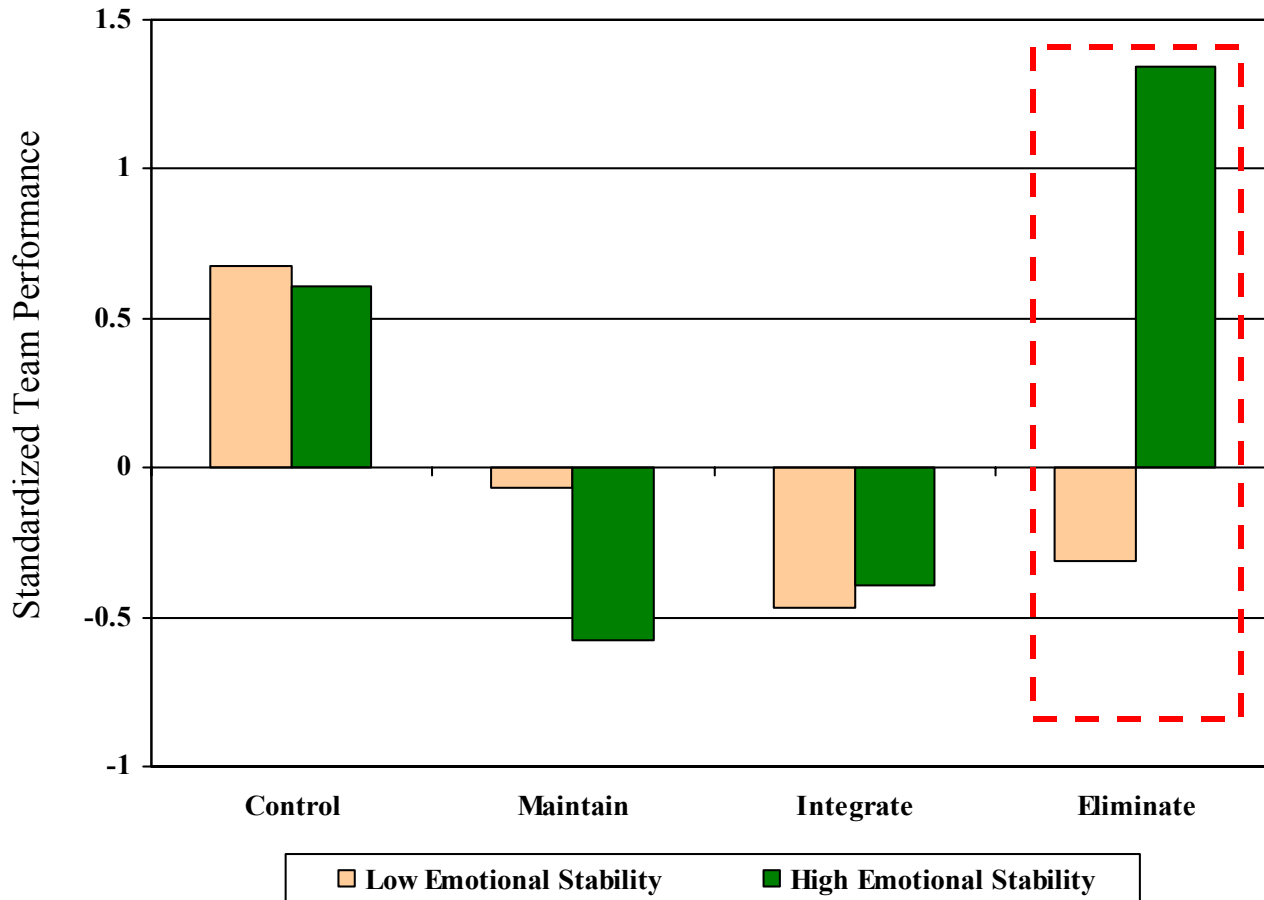
Step	Independent Variable	$\beta$	Total R <sup>2</sup>	$\Delta R^2$
1	Game 1 Performance	.27**	.10**	.10**
2	Maintain	-.96**	.20**	.10**
	Integrate	-1.06**		
	Eliminate	-.15		
3	Extraversion	.83	.21**	.01
4	Maintain X Extraversion	-1.86	.35**	.14**
	Integrate X Extraversion	5.71**		
	Eliminate X Extraversion	2.13		

N = 71 teams. \* P < .10 (two-tailed)

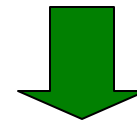
\*\* P < .05 (two-tailed)

# Effects of Team-Level Emotional Stability

Interaction of Downsizing Approach & Emotional Stability on Team Performance



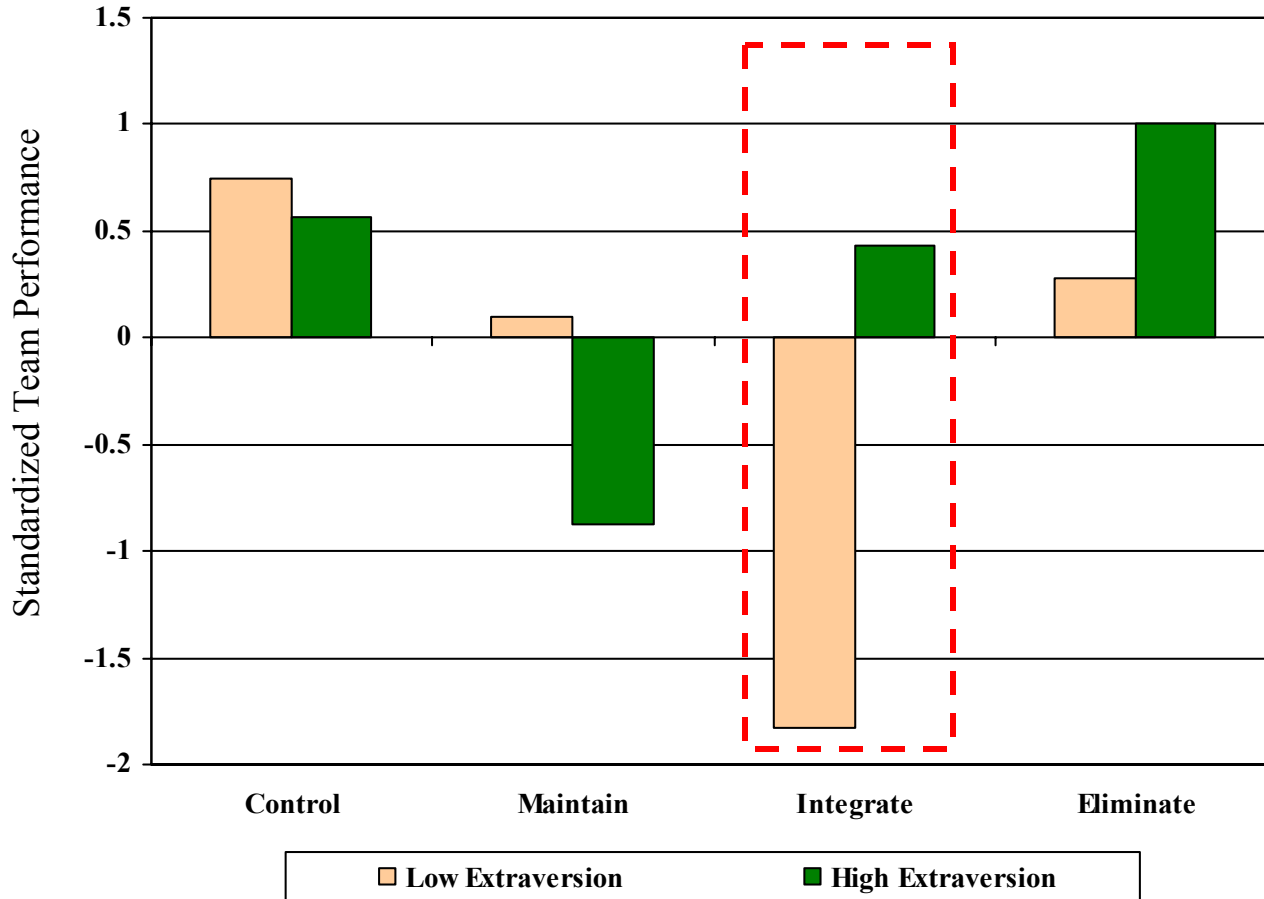
Emotional stability is a key factor for teams facing the loss of a leader, or moving to a self-managing team



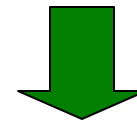
Teams high in emotional stability are better able to manage the loss of their leader

# Effects of Team-Level Extraversion

Interaction of Downsizing Approach & Extraversion on Team Performance



Extraversion is a key factor for teams attempting to delayer their hierarchical structure

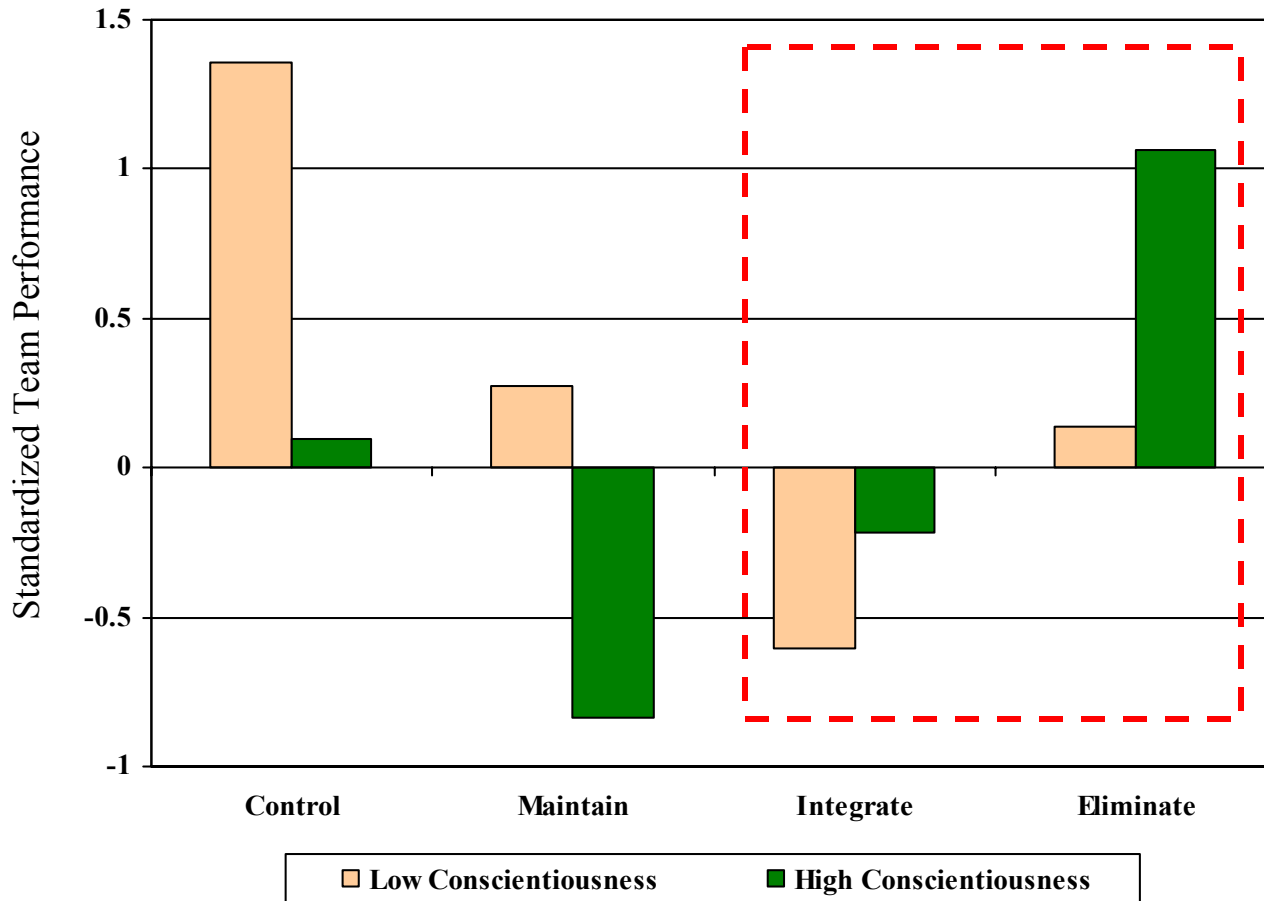


Teams high in extraversion are better able to integrate their leader as a task performing team member

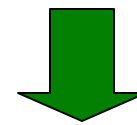


# Effects of Team-Level Conscientiousness

Interaction of Downsizing Approach & Conscientiousness on Team Performance



Conscientiousness is a key factor for teams attempting to delayer their hierarchical structure or eliminate the leader position



Teams high in conscientiousness are better able to integrate their leader or move to a self-managing team

# Implications & Future Research

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*Downsizing in organizational teams is complex...*

- Multiple approaches to downsizing in teams
- Most effective approach depends on compositional elements of the team (e.g., team-level personality)
- Future research:
  - Effect of other team compositional factors (e.g., GMA)
  - Effect of leader traits (e.g., personality, GMA, etc.)
    - How do the characteristics of the leader impact which approach to downsizing is most appropriate?

# Comments & Questions

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*With additional comments or questions,  
please contact:*

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