

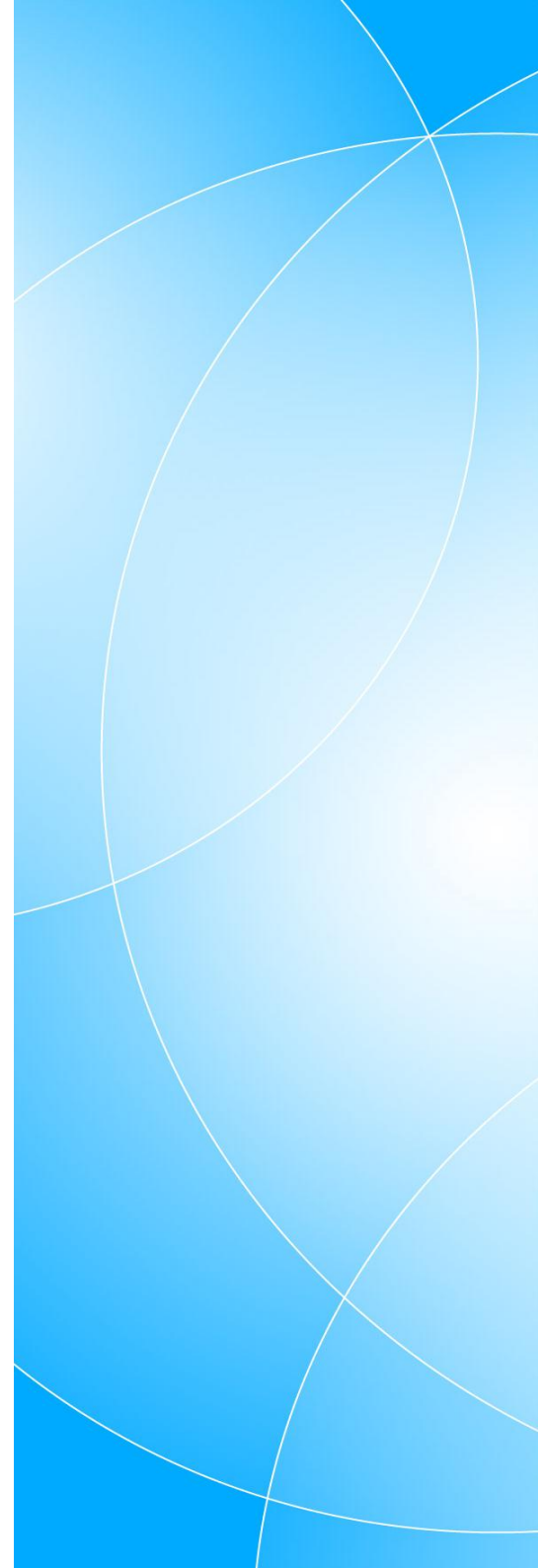
# Boundary Management and Innovation in Nursing Teams

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**BACKGROUND**

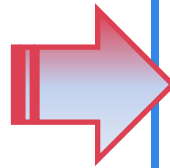


# Today's nursing team and nurse manager's role

## Nursing team

Need more innovative work process to;

- Introduce new ideas and care processes
- Create products
- Improve quality of care autonomously



## Nurse manager's role

- Acquiring information and resources
- Balancing external demands and internal needs

Emphasis more on coordinating across team boundaries

# Boundary management

*Definition* (Marrone, 2010)

‘The team’s actions to establish linkages and manage interactions with parties in the external environment’

*Benefit*

- Transfer of knowledge and sharing resources across organizational units
- Coordination of multidisciplinary efforts  
→ Team innovation, team effectiveness

# Boundary management

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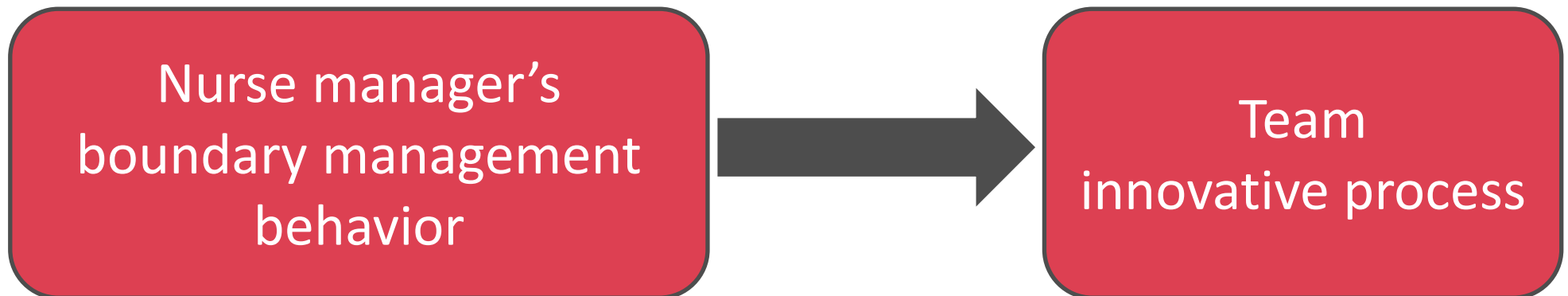
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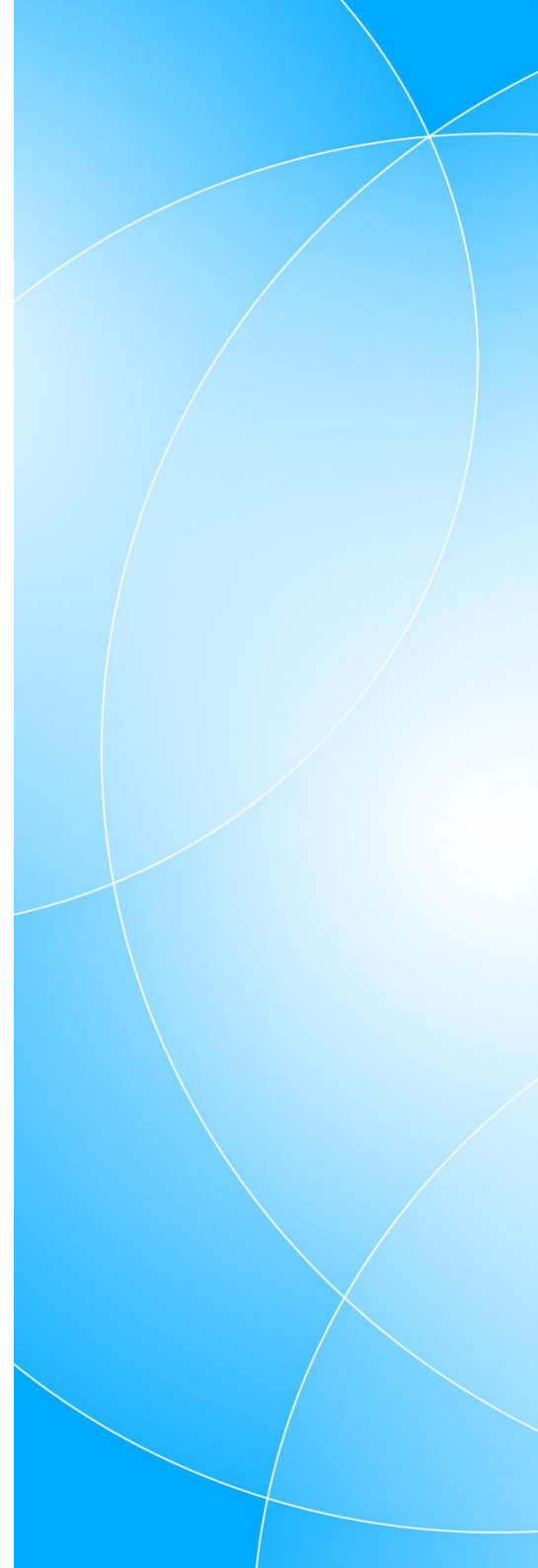
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  - Coordination of multidisciplinary efforts
- Team innovation, team effectiveness**

# AIM

To explore the association between boundary management behavior by nurse managers and innovative processes in their nursing teams



# METHOD



# Design & Sample

- A cross-sectional study
- Questionnaire survey
- Participants
  - 5809 nurses in 231 nursing team at 29 acute care hospitals
  - excluding nurse managers



# Questionnaire contents

- Boundary management
  - Nurse Manager's Boundary Management Scale  
(Developed by authors)
- Team innovative process
  - Team Climate Inventory (Anderson & West, 1998)
- Demographics

# Nurse Manager's Boundary Management Scale (NMBMS)

- Manager's actions to establish linkages and manage interactions between nursing team and parties inside and outside the hospital
- Three factor-30 items
- Staff nurses answer the extent to which their manager perform each behavior

# Nurse Manager's Boundary Management Scale (NMBMS)

Manager in your unit . . . . .

*Never*



*A very  
great  
extent*

## **Factor 1: Controlling and supporting the relationships with external parties (11 items)**

Mediate conflicts between  
team member and others.

1

2

3

4

5

## **Factor 2: Obtaining external indication and cooperation for team's work (8 items)**

Obtain indications and advices  
form experts(such as CNS).

1

2

3

4

5

## **Factor 3: Fostering the mutual understanding between team and the organization (11 items)**

Explain clearly about upper  
management decisions.

1

2

3

4

5

# Team Climate Inventory (TCI)

- Climate for work group to introduce and apply new ideas, processes, and procedures
- Four factor-38 items
- Staff nurses answer the extent to which each statement is true of their team

# Team Climate Inventory (TCI)

Your unit(team) . . . . .

*Strongly  
disagree*

*Strongly  
Agree*

## Factor 1: Participative safety (12 items)

Everyone's view is listened to  
even if it is in a minority.

1

2

3

4

5

## Factor 2: Support for innovation (8 items)

People in this team are always  
searching for fresh, new  
ways of looking at problems.

1

2

3

4

5

# Team Climate Inventory (TCI)

Your unit(team) . . . . .

*To a very  
little  
extent*



*To a very  
great  
extent*

## Factor 3: Task orientation (7 items)

Do you and your colleagues  
monitor each other so as  
to maintain a high  
standard of work?

1

2

3

4

5

6

7

*Not at all*



*Comple  
tely*

## Factor 4: Vision (11 items)

How clear are you about  
what your teams  
objectives are?

1

2

3

4

5

6

7

# Analysis-1

All data aggregated by team

→ Assessing the validity of aggregation

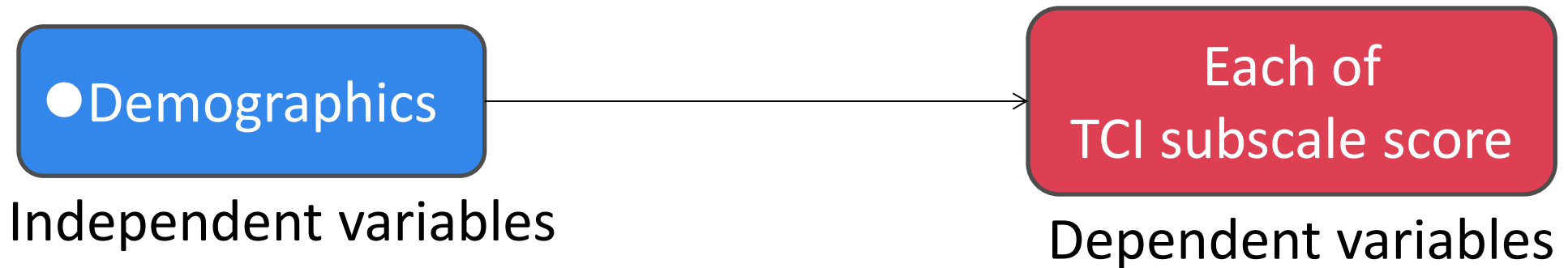
- Response rate  $\geq 50\%$  of team members  
(Verran et al, 1995)

- Aggregation criteria (James, 1984)  
 $R_{wg(j)}$ , Intra class correlation (ICC)

# Analysis-2

- Descriptive Statistics
- Multiple regression analysis

MODEL 1

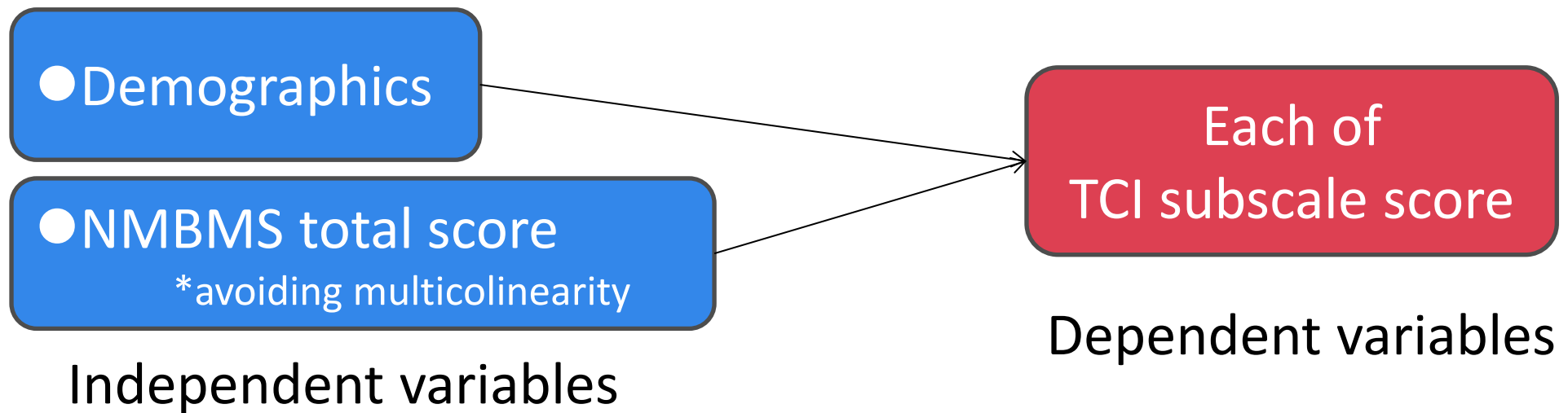




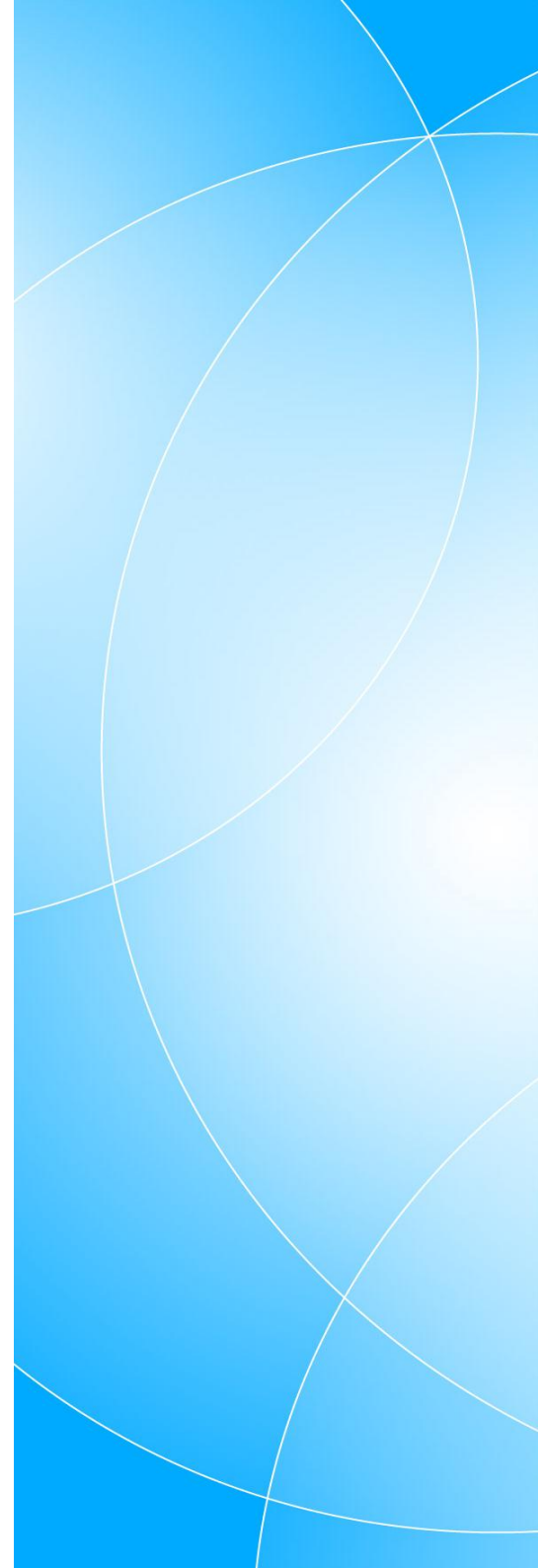
# Analysis-2

- Descriptive Statistics
- Multiple regression analysis

MODEL 2



# RESULTS



# Participants

## Distribution

5,809 nurses at 231 teams

## Response

4,908 nurses at 231 teams  
(response rate 84.7%)

Including only teams meeting  
response rate criteria (50%)

4,788 nurses at 219 teams

Including only teams meeting  
Rwg(j) and ICC criteria

Final sample:  
4,763 nurses at 217 teams

# Team demographics

N=217

	Mean (s.d)
Ratio of female	0.94 (0.07)
Mean age	32.44 (3.59)
Mean years of service	9.59 (3.58)
Mean years of hospital service	7.55 (3.43)
Mean years of unit service	3.01 (1.27)
Ratio of nurses with a bachelor's or higher degree	0.16 (0.16)
Ratio of nurses with a specialist certification	0.06 (0.15)

# Descriptive Statistics -NMBMS-

N=217

	Mean(s.d.)
■ Total Score	3.28(0.41)
■ Controlling and supporting the relationships with other teams and patients	3.45(0.78)
■ Fostering the mutual understanding between team and the organization	3.22(0.74)
■ Obtaining external indication and cooperation for team's work	3.20(0.78)

# Descriptive Statistics -TCI-

N=217

	Mean (s.d.)	Possible score range
■ Participative safety	3.44 (0.62)	1-5
■ Support for innovation	3.13 (0.67)	1-5
■ Task orientation	4.02 (0.95)	1-7
■ Vision	4.15 (0.97)	1-7

# Multiple regression-1

N=217

	MODEL 1		MODEL 2		MODEL 1		MODEL 2	
	Participative safety				Support for innovation			
	β	p	β	p	β	p	β	p
Mean years of hospital services	0.163	0.019	0.098	0.100	0.121	0.079	0.043	0.426
Ratio of nurses with a specialist certification	0.030	0.666	0.008	0.888	0.005	0.946	-0.021	0.693
Ratio of nurses with a bachelor's or higher degree	0.258	<0.001	0.222	0.000	0.301	<0.001	0.257	<0.001
Ratio of female	0.108	0.115	0.099	0.095	0.077	0.258	0.065	0.222
NMBMS score			0.496	<0.001			0.601	<0.001
R <sup>2</sup>	0.084	0.001	0.325	<0.001	0.089	0.001	0.443	<0.001
Adjusted R <sup>2</sup>	0.067		0.309		0.072		0.429	

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# Multiple regression-2

N=217

	MODEL 1		MODEL 2		MODEL 1		MODEL 2	
	Task orientation				Vision			
	$\beta$	p	$\beta$	p	$\beta$	p	$\beta$	p
Mean years of hospital services	0.194	0.004	0.124	0.028	0.323	<0.001	0.248	<0.001
Ratio of nurses with a specialist certification	0.073	0.284	0.049	0.378	0.046	0.491	0.021	0.689
Ratio of nurses with a bachelor's or higher degree	0.313	<0.001	0.274	<0.001	0.282	<0.001	0.240	<0.001
Ratio of female	0.073	0.274	0.063	0.256	0.020	0.764	0.009	0.870
NMBMS score			0.543	<0.001			0.578	<0.001
R <sup>2</sup>	0.120	<0.001	0.409	<0.001	0.138	<0.001	0.466	<0.001
Adjusted R <sup>2</sup>	0.104		0.395		0.122		0.453	

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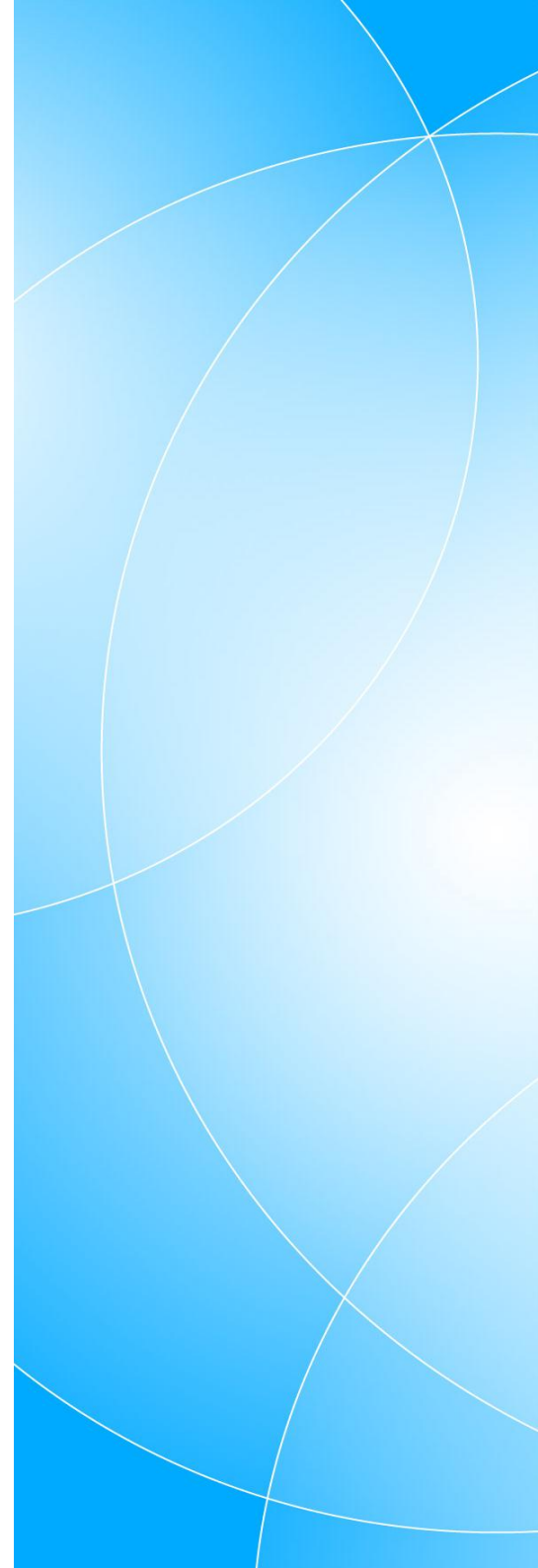
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# DISCUSSION



# Boundary management as indicator of nurse manager's excellence

- Previous studies on effects of activities related to boundary management on staff nurses
  - Access to information, resources and information fosters job satisfaction (Laschinger et al., 2004) ,  
Safety culture (Armellino et al., 2010)
- The NMBMS scores had strong associations with all of the four TCI subscales,  
it demonstrated the importance of boundary management for innovative work process

# Boundary management as indicator of nurse manager's excellence

- The NMBMS score had the strongest association with 'support for innovation' among TCI subscales
- Boundary management facilitates team member's behavior especially which actually leads to innovation, such as discussing, introducing, and supporting new ideas

# Development of boundary management activities

- To enable boundary activities, leaders need to develop political awareness and relationships with a wide variety of groups and individuals  
(Druskut & Wheeler 2003)
  - Experiences of working in another function facilitate particular boundary activities targeted at the function  
(Ancona & Caldwell 1990)
- Unit nurse managers and future managers need opportunities to work with variety of professionals, teams, divisions and organizations



# CONCLUSIONS

- Nurse manager's boundary management behavior cultivates innovative work process of nursing team
- Especially boundary management fosters nurses' behaviors of discussing, introducing, and supporting new ideas
- This study suggested the importance of boundary activities of nurse managers and work environment which enables them to perform those activities