

# **COACHING LEADERSHIP:**

## **A CASE OF SECONDARY SCHOOL**

### **STUDENT-ATHLETES IN SINGAPORE**

**Do Young Pyun**

**National Institute of Education**

**Nanyang Technological University**

**Singapore**

# Introduction

- ❑ Strong Sporting Culture in Singapore in 2008
  - ❑ One goal is to **“catalyze the glory for the nation”** by producing world champions and sports heroes
    - a) The Multi-Million Dollar Awards Programme
    - b) The institution of Singapore Sports School for youth talent identification and development
    - c) A need to raise the standards of coaches → National Coaching Accreditation Programme with three learning levels
- ❑ A need to understand crucial knowledge about identification and evaluation of coaching behavior
  - **Main Research Problem**

# Leadership in Sport

- ❑ **The Multidimensional Model of Leadership** (Chelladurai, 1978)
  - ❑ Team performance and athletes' satisfaction ← a function of the congruence among three states of leader behaviors - (a) **required**, (b) **preferred**, & (c) **actual**
  - ❑ Predictors: **situational characteristics** (e.g., individual sports v. team sports), **personal characteristics** (e.g., athletes' gender), & **leaders' characteristics** (e.g., personality)
- ❑ Coaching effectiveness in Singapore ← Coaches with good traits + desires of youth athletes (e.g., sports aspiration) + the demands of the organization (e.g., sporting excellence in sport)

# Purpose of Study 1

- ❑ To examine youth athletes' perceptions about coaches' behaviors in Singapore upon the conceptual framework of the Multidimensional Model of Leadership in terms of:

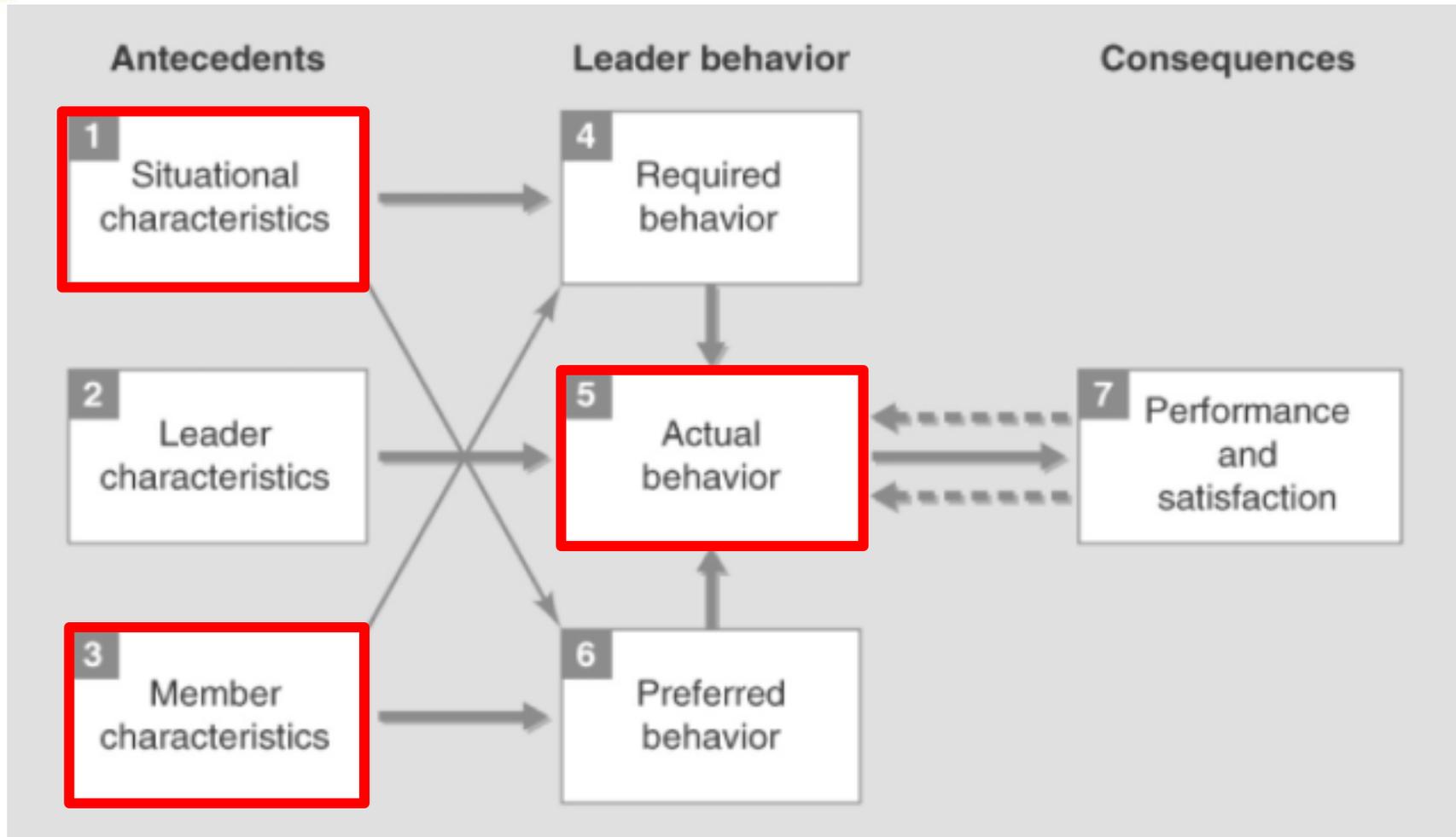
**a) Individual characteristic (i.e., gender)**

**b) Situation characteristic (i.e., task dependence)**

: Independent task (individual sports) Vs. Interdependent task (team sports)

**c) Their interaction (i.e., gender by task dependence)**

# Purpose of Study 1



# Research Hypotheses

## □ Individual characteristic (i.e., gender)

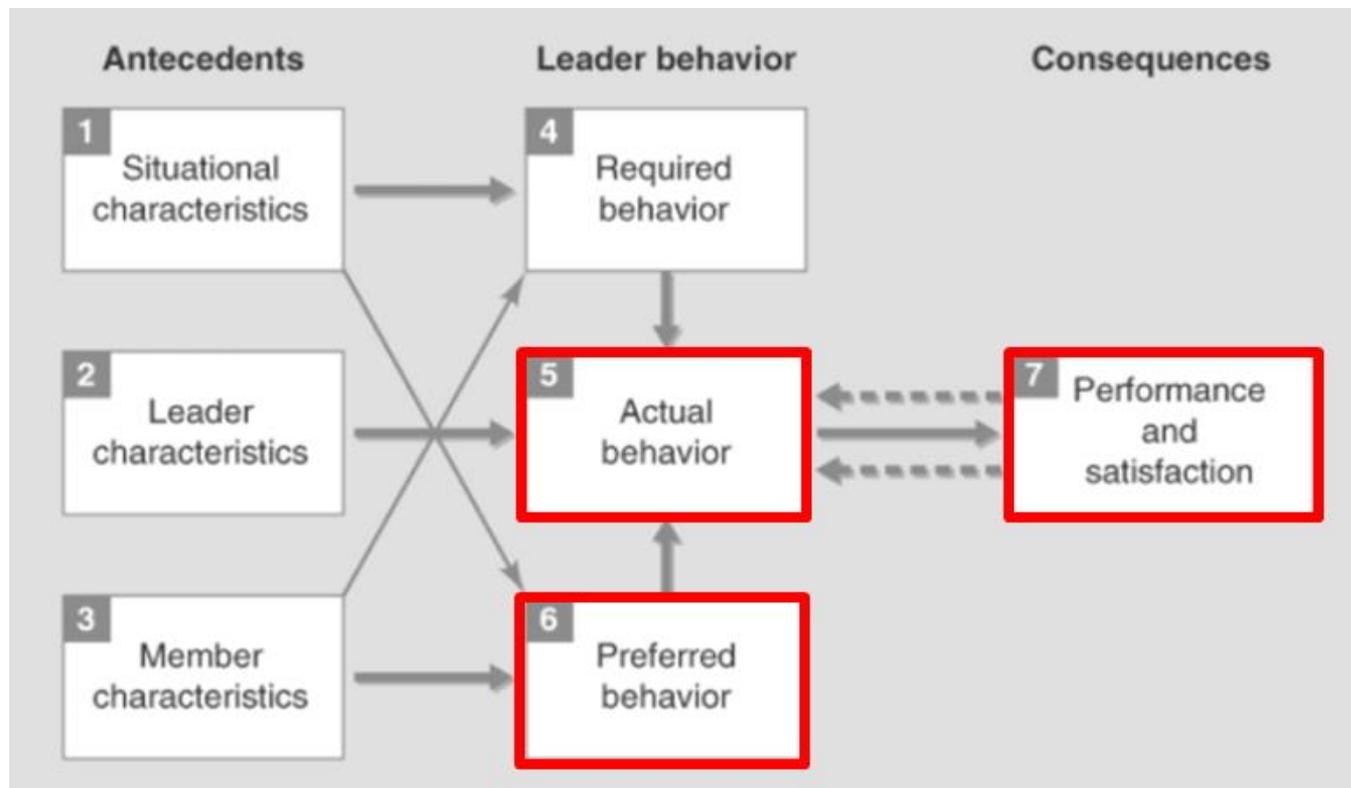
H1: While **male athletes** may perceive more autocratic and social support, **female athletes** may perceive more democratic (e.g., Chelladurai, 1978; Terry, 1984; Chelladurai et al., 1989)

## □ Situational characteristic (i.e., task dependence)

H2: While **athletes in independent sports** may perceive more democratic, positive feedback, & social support, **athletes in interdependent sports** may be perceived more autocratic and training/instruction (e.g., Beal et al, 2004; Chelladurai, 1978)

# Purpose of Study 2

- ❑ To examine the impacts of congruence between perceived and preferred leadership behavior on their satisfaction with leadership





# **STUDY I**

# Methods

## □ Participants and Data Collection

- Convenient sampling method
- 554 (359 males & 185 females) secondary school athletes, ranged in age from 13 to 18 ( $M=15.60$ ,  $SD=.78$ )
- 21 schools randomly selected from 4 different zones in Singapore
- A total of 544 respondents after removing 10 due to incompleteness:
  - 1) 446 in interdependent sports (e.g., basketball, hockey, netball, etc.)
  - 2) 98 in independent sports (e.g., badminton, T/F, fencing, etc.)

# Methods

## ❑ Instrument Development

- The athlete's perception version of the Leadership Scale for Sports (Chella & Saleh, 1980)
- Training and instruction (13 items); democratic (9 items); autocratic (5 items); social support (8 items); positive feedback (5 items)
- 5-point Likert scale

## ❑ Data Analysis

- Preliminary analysis: Mahalanobis distance, correlation, & internal consistency
- Main Study: MANOVA (The Wilk's Lambda, follow-up ANOVAs, & Tukey HSD)

# Results: Preliminary Tests

## ❑ Multivariate Normality Test

- The Mahalanobis distances across the five DVs

a) The maximum value of distance ( $X^2=25.17$ ) > the critical value ( $X^2=20.52$ ,  $df=5$ ) at the .001 alpha level

b) A total of 6 outliers (21.0 to 25.17) were removed

## ❑ Multicollinearity Test

- Moderate correlations among 5 DVs (-.02 to .75)

## ❑ Internal Consistency Test

- Alphas ranged from .47 to .91 (Autocratic=.47)

# Results: Main Study

## □ Overall Multivariate Significance Test

### a) Gender

: Wilk's  $\Lambda = .98$ ,  $F(5, 532) = 1.94$ ,  $p = .09$  ( $> .05$ )

### b) Task Dependence

: Wilk's  $\Lambda = .95$ ,  $F(5, 532) = 5.75$ ,  $p = .000$

### c) Gender by Task Dependence

: Wilk's  $\Lambda = .92$ ,  $F(5, 532) = 2.86$ ,  $p = .000$

# Results: Main Study

**Table 1.**  
**Univariate ANOVAs for Task Dependence & Gender \* Test Dependence**

	Task dependence		Gender * Task dependence	
	F	$\eta^2$	F	$\eta^2$
<b>Training and instruction</b>	1.59	.003	3.55*	.02
<b>Democratic</b>	.13	.00	1.04	.01
<b>Autocratic</b>	.19	.00	.71	.004
<b>Social support</b>	14.82*	.03	5.54*	.03
<b>Positive feedback</b>	.50	.001	3.28*	.02

\*Significant at the .05 level

# Results: Main Study

**Table 2**  
**Post Hoc Tests of Pairwise Comparisons using the Tukey HSD**

	Task dependence		Gender by task dependence			
	Interdependent sports ( <i>n</i> = 441)	Independent sports ( <i>n</i> = 97)	Male interdependent ( <i>n</i> = 286)	Male independent ( <i>n</i> = 68)	Female interdependent ( <i>n</i> = 155)	Female independent ( <i>n</i> = 29)
Training and instruction	3.89 (.69)	3.79 (.71)	3.82 (.72)	3.84 (.71)	<b>4.02 (.61)</b>	3.69 (.71)
Social support	<b>3.15 (.76)</b>	2.83 (.68)	3.12 (.75)	2.86 (.66)	<b>3.21 (.77)</b>	2.75 (.71)
Positive feedback	3.69 (.78)	3.63 (.66)	3.61 (.79)	3.64 (.67)	<b>3.84 (.74)</b>	3.60 (.67)

\*Table includes means and (in parentheses) standard deviations



# **STUDY 2**

# Methods

## □ Participants and Data Collection

- Convenient sampling method
- 185 college student-athletes attending NTU, NUS, SUTD, SIT, and SIM
- 80 males (43.2%) and 105 females (56.8%)
- In 22 different sports, ultimate frisbee (20.0%), netball (17.8.0%), handball (13.5%), soccer (13.0%), dragon boat (10.8%), floorball (7.6%), softball (3.8%), water polo (3.2%), badminton (2.2%)

# Methods

## □ Instrument Development

- The athlete's perception and preference versions of the revised Leadership Scale for Sports (LSS; Zhang et al., 1997)
- Teaching and instruction (10 items); democratic (12 items); autocratic (8 items); social support (8 items); positive feedback (12 items); situational consideration (10 items)
- 5-point Likert scale

## □ Data Analysis

- Preliminary analysis
- Testing the measurement models: CFA
- Congruence (interaction) effects: A series of hierarchical multiple regressions (2 sets of 6 multiple regressions)
- An adjusted alpha: .004 (.05/12)

# Results: Congruence Effects

	Initial order			Reverse order			F
	Variable	R <sup>2</sup>	$\Delta R^2$	Variable	R <sup>2</sup>	$\Delta R^2$	
Teaching & Instruction	Preference	.004	.004	Perception	.377***	.377***	37.74***
	Perception	.385***	.381***	Preference	.385	.008	
	Interaction	.385	<b>.000</b>	Interaction	.385	<b>.000</b>	
Democratic	Preference	.015	.015	Perception	.194***	.194***	16.58***
	Perception	.195***	.180***	Preference	.195	.001	
	Interaction	.216*	<b>.021*</b>	Interaction	.216*	<b>.021*</b>	
Autocratic	Preference	.022	.022*	Perception	.191***	.191***	16.60***
	Perception	.212***	.190***	Preference	.212	.021*	
	Interaction	.216	<b>.004</b>	Interaction	.216	<b>.004</b>	
Social Support	Preference	.053	.053***	Perception	.276***	.276***	27.80***
	Perception	.278***	.224***	Preference	.278	.002	
	Interaction	.315***	<b>.038***</b>	Interaction	.315***	<b>.038***</b>	
Positive Feedback	Preference	.008*	.008	Perception	.295***	.295***	30.18***
	Perception	.320***	.311***	Preference	.320*	.025*	
	Interaction	.333	<b>.014</b>	Interaction	.333	<b>.014</b>	
Situation	Preference	.022*	.022*	Perception	.375***	.375***	38.94***
	Perception	.382***	.359***	Preference	.382	.007	
	Interaction	.392	<b>.010</b>	Interaction	.392	<b>.010</b>	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .004$

# Discussion from Study 1

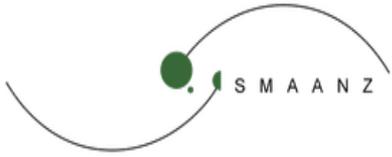
## Task Dependence

- ❑ Finding: Interdependent (team) athletes showed higher perceptions on **social support**
- Confirmed the previous findings that as task dependence increases, coaches need to increase **social support** for their athletes (Chelladurai, 1993; Liukkonen & Salminen, 1990)
- More effective if coach could be able to exhibit social support differentially based on team athletes' preferences and needs (Chelladurai, 1993)
- So, a future study using both preferred and perception versions  
→ More useful information to see their congruence on student satisfaction, eventually enhancing coaching effectiveness

# Discussion from Study 2

## Congruence of Leadership Behavior on Satisfaction

- Finding: Congruence of perceived and preferred behavior in **social support** was a significant indicator of satisfaction
- Most samples in Study 2 from team sports → A good link to the finding from Study 1
- Providing tangible support and building a good relationship with athletes → A desired leadership behavior



# Thank You!