

University table tennis players' perception on coaches' leadership behavior

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Abstract: The purpose was to explore university table tennis players' perception on coaches' leadership behavior. The research approach applied was survey method with a questionnaire. The researcher took the table tennis players who joined the University Game 2010 as samples. 447 samples were effective among 500 table tennis players and the rate of return was 89.4 %. The statistical methods include reliability analysis, t-test, one-way analysis of variance, and Scheffe' method. The findings from the analysis were summarized as follows: the scores of table tennis players' perception on coaches' leadership behavior in sequence were "Awarding", "Training and guiding", "Democracy", "Caring" and "autocratic". Different genders, grades, and days of training had significant differences in "Training and guiding" behavior. Different genders, grades, highest performance levels and days of training had significant differences in "Award" behavior. Different genders had significant differences in "Caring" behavior. Different grades had significant differences in "Democracy" behavior. Different genders and days of training had significant differences in "Autocratic" behavior. Hopefully, this study can offer some suggestions for the direction of future researches and applications in coaches' leadership and team management.

Keywords: coach leadership behaviors

1. INTRODUCTION

1.1. Background and motivation

Table tennis is one of the key Olympic events vigorously promoted in Taiwan, and most of our national team players are outstanding male and female table tennis players from local universities, for example, active national players Chih-Yuan Chuan, Hung-Chieh Chiang, Yi-Hua Huang, etc. Therefore, university table tennis coaches' leadership behaviors become even more critical. Schmink and Wells (1999) found that quality of the leader relates to the performance of the team, and 45-65% of an organization's success is determined by the team leader. It is essential to study what kind of leadership behaviors should university table tennis coaches take to enhance coaches' leadership efficiency, and hence promote the interaction between coaches and players. It is hoped that the research result may provide university table tennis coaches a reference for implementing training, competition and management in team leadership.

1.2. Objectives

This study aims at investigating university table tennis players' perception of coaches' leadership behaviors, in the hope that the research result may provide a guideline for university table tennis coaches in leading the team's training, competition and management. Specific objectives include understanding the current status of players' perception on coaches' leadership behaviors, and the relationship of players' demographic variables and coaches' leadership behaviors.

2. RESEARCH METHOD

2.1. Subjects

Subjects were players in the 2010 University Sports Meet Table Tennis Tournament. Questionnaire survey was conducted from May 7 to May 8.

2.2. Questionnaire

2.2.1 Description

The questionnaire, Coache's leadership behaviors scale, was mainly developed from The Leadership Scale for Sport (LSS) by Chelladurai (1993) and translated into Chinese by Zheng (1997). Five factors, namely "training and guiding behaviors", "caring behaviors", "awarding behaviors", "democratic behaviors" and "autocratic behaviors", were used to assess players' perception of coaches' leadership behaviors. There are six background variables including sex, grade, group, years in the representative team, the highest athlete rank achieved and the number of practicing days in a week.

The questionnaire is a 5-point Likert scale: "Always", "Often", "Sometimes", "Rarely", "Never" are given scores of 5, 4, 3, 2, 1 respectively. The higher the score, the higher is the subjects' perception of coaches' leadership behaviors.

2.2.2 Reliability

Reliability analysis shows that Cronbach's α coefficient of the factors ranges from .810 to .901. The total Cronbach's α coefficient of the scale is .907, showing a good reliability of the scale.

2.2.3 Data collection procedures

Formal questionnaire survey was administered from May 7 to May 8, at the Table Tennis Tournament of

the 2010 university sports meeting. A total of 500 questionnaires were distributed, and the valid response rate was 89.4%.

2.3 Data analysis method

Analysis for the data was mainly conducted by statistical methods such as mean, standard deviation, percentage, t-test, one-way ANOVA, and Scheffe a posteriori comparison. Significance level of the statistical tests was set at $\alpha < .05$.

3. RESULTS AND DISCUSSION

3.1 Current status of coaches' leadership behaviors

Statistic results of the scores of the five factors of coaches' leadership behaviors are shown in Table 3-1, and they are, in descending order, "awarding behaviors" $M=3.711$, "training and guiding behaviors" $M=3.707$, "democratic behaviors" $M=3.658$, "caring behaviors" $M=3.204$, "autocratic behaviors" $M=2.703$. This result confirms that of Chen and Lin (2007), showing that in all sport teams, the perception of coaches' "awarding behaviors" and "training and guiding behaviors" are most impressive. That is, university coaches' positive feedback to players who are performing well, and their effort in guiding players' skills and tactics during training are well recognized by players. "Autocratic behaviors" score the least, which is consistent with that of Wu (2002). Huang, Lin and Huang, (2011) also have similar findings. It can be seen from this result that autocratic behaviors are coaches' leadership behaviors least liked by sports players, and hence coaches should minimize the use of such approach, and should be more inclined to training and guiding, awarding and democratic approach of leadership, to avoid negative effect which may affect players' performance.

Table 3-1 Analysis of current status of coaches' leadership behaviors

Coaches' leadership behavior factors	Mean	S.D.	Rank
Training and guiding behaviors	3.707	0.729	2
Awarding behaviors	3.711	0.799	1
Democratic behaviors	3.658	0.750	3
Caring behaviors	3.204	0.892	4
Autocratic behaviors	2.703	0.971	5

3.2 Analysis of different background variables and coaches' leadership behaviors

3.2.1 Analysis of different sexes and coaches' leadership behaviors

For coaches' leadership behaviors for different sexes, results of the t-test analysis of independent samples are shown in Table 3-2. Different sexes show significant difference in "training and guiding behaviors", "awarding behaviors", "caring behaviors" and "autocratic behaviors", and comparison of the means shows that male score higher than female. This result is consistent with Li's (2007) study which states that both "caring behaviors" and "autocratic behaviors" factors reach significant level, and male score higher than female, and Wu's (2002) study which states that "training and guiding", "awarding behaviors" and "autocratic behaviors" factors reach significant level, and male score higher than female. The result indicates that in a team, coaches should take a fair approach and use different leadership behaviors depending on players' different needs.

Table 3-2 Variance analysis of different sexes and coaches' leadership behaviors

Coaches' leadership behavior factors	Sex	N	Mean	S.D.	t value	P value	Comparison
Training and guiding behaviors	M	257	3.822	0.764	3.126	.002*	M>F
	F	190	3.596	0.745			
Awarding behaviors	M	257	3.781	0.778	2.156	.032*	M>F
	F	190	3.617	0.818			
Caring behaviors	M	257	3.404	0.819	5.710	.000*	M>F
	F	190	2.932	0.917			
Autocratic behaviors	M	257	2.834	0.952	3.370	.001*	M>F
	F	190	2.525	0.972			

* $p < .05$

3.2.2 Analysis of different grades and coaches' leadership behaviors

For coaches' leadership behaviors for different grades, results of the one-way ANOVA are shown in Table 3-3. Significant difference is shown in "training and guiding behaviors", "awarding behaviors" and "democratic behaviors", and it is found in posteriori comparison that graduate students score significantly higher than junior and senior students in "training and guiding behaviors" and "democratic behaviors", and graduate students also score significantly higher than senior students in "awarding behaviors" factor. This result is different from Chuang's study (2009). This may be due to the difference in academic system and the sport event studied. It is shown from the result that graduate students are more senior members in the team, they are more familiar with the coaches' training and guiding approach, and naturally interact and communicate more frequently with coaches, and so they score higher in their perception.

Table 3-3 Variance analysis of different grades and coaches' leadership behaviors

Coaches' leadership behavior factors		Freshman	Sophomore	Junior	Senior or above	Graduate students	F value	Posteriori comparison
Training and guiding behaviors	Mean	3.760	3.836	3.640	3.553	4.082	4.200*	5 > 3、4
	S.D.	0.689	0.888	0.705	0.777	0.594		
Awarding behaviors	Mean	3.682	3.737	3.703	3.618	4.036	1.974*	5 > 4
	S.D.	0.808	0.778	0.801	0.814	0.723		
Democratic behaviors	Mean	3.712	3.740	3.621	3.424	4.061	5.724*	5 > 3、4
	S.D.	0.721	0.761	0.695	0.797	0.617		

*p<.05

3.2.3 Analysis of different performance levels achieved and coaches' leadership behaviors

For coaches' leadership behaviors for different performance levels achieved, results of the one-way ANOVA are shown in Table 3-4. Significant difference is shown in "awarding behaviors", and it is found in posteriori comparison that players at the National Games

rank score significantly higher than, while other factors are all insignificant. This result does not conform to the result of Ou (2006). The researcher believes that since coaches of various counties and cities in the National Games would give positive feedback to inspire players and enhance their results and performance, and so they have higher level of perception.

Table 3-4 Variance analysis of different performance levels achieved and coaches' leadership behaviors

Coaches' leadership behavior factors		International level	National level	University Level	F value	Posteriori comparison
Awarding behaviors	Mean	3.581	3.917	3.676	3.541*	2 > 1
	S.D.	1.067	0.759	0.767		

*p<.05

3.2.4 Analysis of days of training per week and coaches' leadership behaviors

For coaches' leadership behaviors for different days of training per week, results of the one-way ANOVA are shown in Table 3-5. Significant difference is shown in "training and guiding behaviors", "awarding behaviors" and "democratic behaviors" factors, and it is found in posteriori comparison that those receiving for 6 days or above in a week score significantly higher than those receiving training for 4-5 days or 1 day in a week, and in "autocratic behaviors", those receiving training for 6

days or above in a week score significantly higher than those receive training for 1 day in a week. The result of Chen's study (2006) points out that different training frequencies will affect players' perception of coaches' leadership behaviors, which is consistent with the result of this study. The result shows that those with more training days per week score higher in their perception of coaches' leadership behaviors, indicating that the more time players spend with the coach during the training process, the better they perceive the coach's leadership behaviors.

Table 3-5 Variance analysis of different training days per week and coaches' leadership behaviors

Coaches' leadership behavior factors		1 day	2-3 days	4-5 days	6 days or above	F value	Posteriori comparison
Training and guiding behaviors	Mean	3.592	3.758	3.611	3.996	2.957*	4 > 3、1
	S.D.	0.699	0.785	0.720	0.741		
Awarding behaviors	Mean	3.609	3.734	3.578	4.063	3.656*	4 > 1、3
	S.D.	0.736	0.805	0.782	0.791		
Autocratic behaviors	Mean	2.578	2.643	2.789	3.063	2.537*	4 > 1
	S.D.	0.905	0.972	0.939	1.076		

*p<.05

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Summarizing the analyses and discussions of this study, the following conclusions are made:

4.1.1 Current status of coaches' leadership behaviors

Scores of the 5 various factors of university table tennis players' perception of coaches' leadership behaviors are, in descending order: "awarding behaviors", "training and guiding behaviors", "democratic behaviors", "caring behaviors", "autocratic behaviors". It shows that "training and guiding" and "awarding behaviors" should be the norm of coaches' leadership behaviors, and since "autocratic behaviors" score the least, it means university table tennis players, with the edification of university education, do not need coaches' autocratic leadership during the training and competition process, and they can work autonomously towards the team and individual goals.

4.1.2 Analysis of different background variables and coaches' leadership behaviors

Different sexes, grades, and days of training per week show a significant difference in the "training and guiding behaviors" factor; different sexes, grades, performance achieved, and days of training per week show a significant difference in the "awarding behaviors" factor; different sexes show a significant difference in the "caring behaviors" factor; different grades show a significant difference in the "democratic behaviors" factor; different sexes, and days of training per week show a significant difference in the "autocratic behaviors" factor. These indicate that players with different background have different level of feeling towards coaches' leadership behaviors. Therefore, coaches should adopt different leadership behaviors depending on individual differences of players, to help players in improving their skills and hence enhance players' performance.

4.2 Recommendations

4.2.1 Application of the study's result

4.2.1.1 Adopt "awarding behaviors" and "training and guiding behaviors"

The research results find that among the players' perception of coaches' leadership behaviors, "awarding behaviors" and "training and guiding behaviors" score the highest. It can be seen that university table tennis players need coaches' positive feedback when they have good performance in the training and competition process, and strengthen training of skills and tactics in the competition environment, manifesting players' reliance on coaches' training and guiding. Therefore, coaches should continue to reinforce these leadership

behavioral, to enhance players' individual and team performance.

4.2.1.2 Coaches' leadership behaviors should be properly adjusted depending on players' individual differences

The research results find that different background variables make a significant difference in the perceived leadership behaviors of coaches, and so, coaches should use leadership behaviors suitable for the players during training and competition, for example, giving players more verbal or material awards, and allowing players to participate in the team's affairs and decisions, enhancing players' sense of involvement, in order to improve the interaction between coaches and players, and hence boost their performance.

4.2.2 Recommendations for future studies

This study is confined to the table tennis players in the 2010 University Sports Meeting. If the scope of study can be extended to the open group and school athletic meetings of junior and senior high schools, the results of the study will be more comprehensive, and may extend as a reference for coaches of all grades.

REFERENCES

- [1] Chelladurai, P. Leadership. In R. N. Singer, M. Murphey, L. K. Tennant, (Eds.), *Handbook of research on sport psychology*. 647-671. New York: Macmillan, 1993.
- [2] Chen, C.C., Lin, P.H. The study of perceived coach leadership behavior on team cohesion of collegiate table tennis division A players. *Journal of Physical Education Fu Jen Catholic University*, 6, 150-168, 2007.
- [3] Chen, T.H. *The relationship between coach leadership behavior and team cohesion in junior high school basketball team (division one) in Taiwan*. Taipei Physical Education College, Taipei, 2006.
- [4] Chuang, J-L. *Perceived coach leadership behavior and athletes' satisfaction of the track and field athletes in junior high schools of Tainan City*. Master's thesis, National Kaohsiung Normal University, Kaohsiung, 2009.
- [5] Huang, C-H, Lin, L-H, and Huang, C-H. The relationship between adult table tennis athletes' perception on coaches' leadership behavior and satisfaction. *Communication to the 12th ITTF Sports Science Congress*, Rotterdam, The Netherlands, 2011.
- [6] Lee, H-C. *A research on the relationship between the leadership behavior of coaches and the satisfaction of players in secondary school soft tennis teams*. Taipei Physical Education College, Taipei, 2007.
- [7] Ou, C-M. A study on coach leadership behavior and athletes' satisfaction: the case of badminton players of university division A. *Journal of Sport and Recreation Management*, 3, 167-189, 2006.

- [8] Wu, H-C. A related study among coaches' leadership perceived by players, team conflict, team cohesion and satisfaction. Doctor's dissertation, National Taiwan Normal University, Taipei, 2001.
 - [9] Zheng, Z. F. *The development of leadership scale for sports (Chinese version): A study of coaches' leadership behavior.* 45-47, Taipei, Taiwan: ShiTa, 1997.
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