Team support and team cohesion of college table tennis players in Taiwan

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Abstract: The goal of this study is to understand the team support and team cohesion of college table tennis players. The subjects were table tennis players who participated in college sports teams. The research instrument was a Perceived Team Support and Team Cohesion Questionnaire. The conclusions of this research are: 1. there was no significant difference in team support and team cohesion among college table tennis players in terms of the frequency of training per week, seniority in the sports team, best team result, and their current grades. 2. significant differences could be found among different duration of training time in regards to both the team support and team cohesion of table tennis players. 3. there was a correlation between team support and team cohesion among college table tennis players.

Keywords: table tennis players, team support, team cohesion

1. INTRODUCTION

Table tennis is one of the most popular sports among the universities and colleges in Taiwan and it is an integral sport in the annual National Intercollegiate Athletic Games. The number of table tennis teams participating in the event also proves its popularity. Therefore, it takes considerable effort to win top spots in the Games as well as to achieve excellent results in the evaluation made by the Ministry of Education. Carron (1982) defines team cohesion as a dynamic process which is reflected in the tendency for a team to stick together and remain united in the pursuit of goals and objectives. Accordingly, in the field of athletics, team cohesion is a research topic worth exploring; the level of team cohesion is a key factor most likely to affect players' feeling of satisfaction and sport performance, and team cohesion will help determine the result of a contest (Carron and Chelladurai, 1981; Lu, 1994). Martens and Peterson (1971) also corroborate our finding with experiments that higher team cohesion will lead to better sport performance. As for methods to enhance team cohesion so as to improve contest results, a coach's leadership behavior is evaluated as a significant factor and the relationship between coach's leadership behavior and team cohesion has been studied (Carron and Chelladurai, 1981; Schreisheim, 1987; Westre and Weiss, 1991; Chen, 1993; Wu, 2002; Chiu, 2002; Lin, 2001; Chang, 2005; Lee, 2010). Although coach's leadership behavior has been found to have a profound influence on school team members, support from school and teammates should also have an important impact on team cohesion. Eisenberger et al. (1986) developed perceived organizational support theory, which is defined as "the extent to which employees perceive that their contributions are valued by their organization and that the firm cares about their well-being" and argued that it will influence employees' expectations and commitment to the organization. When employees perceive the support of the organization, they will commit themselves to the organization and then fully support the organization. If perceived organizational support theory is applied to sports teams, it can be inferred that the higher organizational support the team players perceive, the more time and cohesion they will dedicate into the team. This study focused on table tennis players in college sports teams to realize their level of perceived organizational support and the relationship between perceived organizational support and team cohesion. It is expected that the results can be a significant basis and reference for the staff working in the physical education departments of colleges.

2. METHODOLOGY

2.1 Subjects

They were table tennis players who participated in their college's sports team

2.2 Materials

The scale adopted was the Perceived Team Support and Team Cohesion Questionnaire designed by Kao (2007). The scale questionnaire whose reliability and validity had been tested in Kao's study in 2007 divides perceived team support into three dimensions: perceived school support, perceived coach support and perceived teammate support, and divides team cohesion into four dimensions: team cooperation, interpersonal relationship, group adaptation, and interpersonal attraction. Cronbach α coefficient of perceived team support is 0.90 and that of team cohesion is 0.92.

2.3 Data processing

After incomplete questionnaires being discounted, the valid questionnaires have been coded and the following statistical methods with SPSS for Windows 12.0 have been used to process and analyze the data.

2.3.1 The collected data were analyzed with descriptive statistics.

2.3.2 The differences of background variables between college table tennis team players' perceived team support and their team cohesion were examined with the independent sample *t*- test and one- way ANOVA. If the analysis result of one- way ANOVA is significant, Scheffe post-hoc comparison would be adopted.

2.3.3 The correlation between college table tennis team players' perceived team support and their team cohesion was examined with Pearson's product-moment correlation.

2.3.4 Statistical significance was set at $p < 0.05$.

3. RESULTS AND DISCUSSION

3.1 The differences between college table tennis players' perceived team support and team cohesion

From the data shown in Table 1 and Table 2, it can be inferred that there was a difference between college table tennis players' perceived team support and team cohesion in terms of gender. The average points show that male players' perceived team support was higher than that of female players. As for team cohesion, there was no significant difference among male players and female players. However, the average points show that male players' team cohesion was higher than that of female players. The study result is different from that of Kao's study in 2007 and Chiu's study in 2002. It is argued that studies on different sports may have different results.

In addition, it does not matter whether college table tennis players were gifted athletes or not. There was no significant difference between their perceived team support and team cohesion. Kao's study (2007) showed that players who were not gifted athletes had stronger team cohesion than those who were gifted athletes among each dimension. Although no significant difference was found in this study, players who were not gifted athletes still had stronger perceived team support and team cohesion than those who were gifted athletes in terms of average points.

Table 1. Differences of background variables between college table tennis team players' perceived team support

Background variables	Groups	M	SD	t	p
Gender	Male	3.81	0.53	2.05	0.04*
	Female	3.70	0.45		
Past experience as gifted athletes	Yes	3.69	0.40	-1.77	0.07
	No	3.79	0.50		

* $p < 0.05$

Table 2. Differences of background variables between college table tennis team players' team cohesion

Background variables	Groups	M	SD	t	p
Gender	Male	3.82	0.47	0.98	0.32
	Female	3.78	0.43		
Past experience as gifted athletes	Yes	3.75	0.46	-1.33	0.18
	No	3.82	0.43		

* $p < 0.05$

The differences between college table tennis players' perceived team support and team cohesion were also analyzed with one- way ANOVA (Table 3). There was no significant difference between those players in terms of frequency of training per week, best team results, seniority in high school sports team, current grade, and age. Chen (2004) Chang (2005) pointed out that the frequency of training per week had no significant influence on team cohesion. This result matches this study. However, there was a significant difference between the duration of training time and perceived team support and team cohesion. Those players whose duration of training time was equal to or more than three hours had stronger perceived team support and team cohesion than those whose duration of training time was one to two hours. In addition, there was a significant difference in team cohesion among those players with different seniority in the school team, but otherwise after a Scheffe post-hoc comparison. These results were similar with the studies of Wu (2002) and Kao (2007). It can be inferred from these results that three hours is the best duration of training time for student players. If the training time is too short, the training effect won't be obvious; if the training time is too long, players will be exhausted and their perceived team support and team cohesion will be lowered.

Table 3. Differences of background variables between college table tennis team players' perceived team support and team cohesion examined with one- way ANOVA

Background Variables	Groups	Team Support	Team Cohesion	Scheffe's posterior comparison
Frequency of training per week	1. One 2. Two 3. Three 4. Four 5. More than five (included)	0.77	0.15	
Duration of training time	1. Less than 1 hour (included) 2. 1 to 2 hours 3. 2 to 3 hours 4. More than 3 hours (included)	0.01*	0.01*	Both are 4>2
Seniority in school team	1. Less than 1 year (included) 2. 1 to 2 years 3. 2 to 3 years 4. 3 to 4 years 5. More than 5 years (included)	0.31	0.02*	There's no significant difference among each group
Best team results	1. On Behalf of Taiwan participating in international competitions 2. Top 3 in national competitions 3. Top 8 in national competitions 4. Top 3 in local competitions 5. Top 8 in local competitions 6. Other	0.26	0.13	
Seniority in high school sports team	1. None 2. Less than 1 year (included) 3. 2 years 4. 3 years 5. 4 years 6. More than 5 years (included)	0.28	0.40	
Current grade	1. Freshman 2. Sophomore 3. Junior 4. Senior 5. First year of master's degree 6. Second year of master's 7. Third year of master's degree 8. Other	0.55	0.08	
Age	1. Less than 17 (included) 2. 18 to 23 3. 24 to 27 4. More than 28 (included)	0.70	0.61	

*p<.05

3.2 Correlation between college table tennis players' perceived team support and team cohesion

It can be inferred from Table 4 that there was a positive correlation between perceived team support and team cohesion among each dimension. This result is the same as the study result of Kao (2007). Wayne et al. (1997) argued that the welfare offered by the organization to employees and the policies, procedure, and decisions made to praise employees' contribution would influence the level of employees' perceived team support. Therefore, it can be inferred that the stronger perceived team support the college table tennis players have, the stronger team cohesion they will have.

In this study, the correlation between perceived teammate support and team cooperation was high, which means that the level of teammate support would influence the cohesion of teammates and team cooperation. In other words, the stronger cohesion the teammates have, the higher teammate support they will perceive.

Table 4. Correlation analysis of college table tennis players' perceived team support and team cohesion

Dimensions	Support 1 School support	Support 2 Coach support	Support 3 Teammate support
Cohesion 1 Team cooperation	0.35**	0.49**	0.60**
Cohesion 2 Interpersonal relationship	0.34**	0.48**	0.57**
Cohesion 3 Group adaptation	0.27**	0.46**	0.55**
Cohesion 4 Interpersonal attraction	0.20**	0.46**	0.52**

** $p < 0.01$.

4. CONCLUSIONS

This research focused on college table tennis players' perceived team support and team support. After the data analysis and discussion, the following conclusions were obtained.

4.1 There was no significant difference in team support and team cohesion among college table tennis players in terms of the frequency of training per week, seniority in the sports team, best team result, and current grades.

4.2 Significant differences could be found among the different duration of training time in regards to both team support and team cohesion of table tennis players.

4.3 There was a correlation between team support and team cohesion among college table tennis players.

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