

## **Team support and team dedication of college table tennis players in Taiwan**

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**Abstract:** The purpose of this study is to understand the significance of team support and team dedication among college table tennis players. The subjects were table tennis players who participated in the college sports team in 2007. The research instruments used was a Perceived Team Support and Team Dedication Questionnaire. The conclusions include: 1. college table tennis players were most aware of support from their team members. 2. table tennis players showed no significant difference in realizing team dedication among gender, the frequency of training per week, seniority in school team, current grade and age. 3. there was a significant difference among college table tennis players in terms of the past experience as gifted athletes, the duration of training time, the best team results, and seniority in their high school sports team. 4. according to the team dedication indicator, the sense of community among college table tennis players was extremely high. 5. no significant difference could be found among college table tennis players on whether they had been gifted athletes or not in terms of their gender and seniority in their high school sports team. 6. a significant difference had been found among college table tennis players on the frequency of training per week, the duration of training, the best team result and their current grades. 7. there had been a correlation between team support and team dedication among college table tennis players.

**Keywords:** college, table tennis, team support, team dedication

### **1. INTRODUCTION**

In order to help each student learn at least one sport and enable them to exercise regularly, the Department of Physical Education, Ministry of Education published "Medium-range Plan for Sports Development in School" in 2002 to propose the concept of "each person, one sport; each school, one team" [1]. With the foundation of an evaluation mechanism, the results of sports competitions have become a significant basis in recent years in the physical education evaluation made by the Ministry of Education [2].

A school sports team can win honors only when it wins the support from school and its team players dedicate themselves to training. Eisenberger et al. [3] introduced the concept of perceived organizational support, 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. O'Driscoll and Randall [4] also pointed out that there is a positive relationship between perceived organizational support and team members' dedication. If perceived organizational support is applied to a sports team, the higher perceived organizational support the team players have, the more time and consciousness they will dedicate into the team. It is believed that high participation and dedication to the team work will allow team players to perform well. It is also a key factor that influences team performance [5].

Table tennis is a popular sport in Taiwan as evidenced by the number of teams in the annual National Intercollegiate Athletic Games, so it takes considerable efforts for the teams to win in these competitions. This study focused on the table tennis players in college sports teams who realize their level of perceived organizational support and the relationship between perceived organizational support and dedication. It is anticipated that the results of this study can be a significant basis and reference for the staff working in the physical education departments in 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 Dedication Questionnaire designed by Kao [5] and whose reliability and validity had been tested in Kao's study in 2007. The scale divides perceived team support into three dimensions: perceived school support, perceived coach support and perceived teammate support and divides team dedication into five dimensions: fun at work, job evaluation, job identity, job participation, and job concentration. Cronbach  $\alpha$  coefficient of perceived team support is 0.90 and that of team dedication is 0.94.

#### **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 in background variables between college table tennis team players' perceived team support and their team dedication 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 dedication 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 Analysis of college table tennis players' perceived team support

The average points of college table tennis players' perceived team support were found to be between 3.53 and 3.95. This means that the team support that those players perceived was above the average level. Among perceived school support, perceived coach support and perceived teammate support, the support from teammates that those players could perceive was the highest ( $M=3.95$ ), that from coaches was the next ( $M=3.78$ ), and that from schools was the lowest ( $M=3.53$ ). It can be concluded that because college table tennis players spend more time dealing with their teammates and ask for help or support when encountering problems, the support from teammates that they can perceive is the highest. This result is the same with that made by Kao in 2007 [5]. Gregoire et al. [6] argued that it's very helpful to do training transfer if employees can obtain support from colleagues. In other words, the effect of training transfer will be more obvious and significant if coworkers can support and encourage each other [7]. Furthermore, trainees will perform much better in the team after being trained if they can acquire more support from other employees [8]. If the studies mentioned above are applied to this study, it can be inferred that team performance could be enhanced if college table tennis players can support and encourage each other.

The overall analysis of college table tennis players' perceived team support is shown in Table 1.

Table 1. Perceived team support indicator

Dimensions	Number of respondents	Average	Order
Perceived school support	421	3.53	3
Perceived coach	421	3.78	2

support			
Perceived teammate support	421	3.95	1

#### 3.2 Differences in college table tennis players' perceived team support

Table 2 and Table 3 illustrate the differences in college table tennis players' perceived team support. The analysis showed that whether college table tennis players were gifted athletes or not, there was no significant difference in perceived team support among gender, frequency of training per week, seniority in school team, current grade and age. However, there was significant difference in perceived team support among duration of training time, best team results, and seniority in their respective high school team.

Table 2. Differences of background variables between college table tennis team players' perceived team support examined with the independent sample *t*- test

Background variables	Groups	Perceived school support	Perceived coach support	Perceived teammate support
Gender	Male	0.63	0.52	0.35
	Female			
Past experience as gifted athletes	Yes	0.01*	0.39	0.96
	No			

\*  $p < 0.05$

Table 3. Differences of background variables between college table tennis team players<sup>a</sup>

Background variables	Groups	A <sup>b</sup>	B <sup>b</sup>	C <sup>b</sup>	Scheffe's posterior
Frequency of training per week <sup>c</sup>	1. One <sup>d</sup>	0.09 <sup>e</sup>	0.32 <sup>e</sup>	0.05 <sup>e</sup>	-
	2. Two <sup>d</sup>				
	3. Three <sup>d</sup>				
	4. Four <sup>d</sup>				
	5. More than five (included) <sup>d</sup>				
Duration of training time <sup>d</sup>	1. Less than 1 hour (included) <sup>d</sup>	0.17 <sup>e</sup>	0.01* <sup>e</sup>	0.01* <sup>e</sup>	B>A>2 <sup>e</sup>
	2. 1 to 2 hours <sup>d</sup>				C:4>3>2>1 <sup>e</sup>
	3. 2 to 3 hours <sup>d</sup>				
	4. More than 3 hours (included) <sup>d</sup>				
Seniority in school team <sup>d</sup>	1. Less than 1 year (included) <sup>d</sup>	0.20 <sup>e</sup>	0.20 <sup>e</sup>	0.06 <sup>e</sup>	-
	2. 1 to 2 years <sup>d</sup>				
	3. 2 to 3 years <sup>d</sup>				
	4. 3 to 4 years <sup>d</sup>				
	5. More than 5 years (included) <sup>d</sup>				
Best team results <sup>d</sup>	1. Behalf of Taiwan participating	0.01* <sup>e</sup>	0.71 <sup>e</sup>	0.03* <sup>e</sup>	A:2>3,3>6 <sup>e</sup>
	2. Top 3 in national competitions <sup>d</sup>				C: No Difference <sup>e</sup>
	3. Top 8 in national competitions <sup>d</sup>				
	4. Top 3 in local competitions <sup>d</sup>				
	5. Top 8 in local competitions <sup>d</sup>				
	6. Other <sup>d</sup>				
Seniority in high school sports team <sup>d</sup>	1. None <sup>d</sup>	0.70 <sup>e</sup>	0.83 <sup>e</sup>	0.01* <sup>e</sup>	C:1>6 <sup>e</sup>
	2. Less than 1 year (included) <sup>d</sup>				
	3. 2 years <sup>d</sup>				
	4. 3 years <sup>d</sup>				
	5. 4 years <sup>d</sup>				
	6. More than 5 years (included) <sup>d</sup>				
Current grade <sup>d</sup>	1. Freshman <sup>d</sup>	0.06 <sup>e</sup>	0.05 <sup>e</sup>	0.20 <sup>e</sup>	-
	2. Sophomore <sup>d</sup>				
	3. Junior <sup>d</sup>				
	4. Senior <sup>d</sup>				
	5. First year of master's degree <sup>d</sup>				
	6. Second year of master's degree <sup>d</sup>				
	7. Third year of master's degree <sup>d</sup>				
	8. Other <sup>d</sup>				
Age <sup>d</sup>	1. Less than 17 (included) <sup>d</sup>	0.47 <sup>e</sup>	0.48 <sup>e</sup>	0.46 <sup>e</sup>	-
	2. 18 to 23 <sup>d</sup>				
	3. 24 to 27 <sup>d</sup>				
	4. More than 28 (included) <sup>d</sup>				
*p<0.5 <sup>e</sup>					
Note: A=School Support · B=Coach Support · C=Teammate Support					

themselves more to training and teamwork to pursue excellent results for the team. The study result is very similar with the concept brought up by Eisenberger et al. [9] that if the organization values its employees' contributions and cares about their well-being, the employees tend to perform better, commit themselves to the organization, and support the organization.

### 3.3 Analysis of college table tennis players' team dedication

Table 4 illustrates the team dedication of college table tennis players. The average points of each dimension of team dedication were between 3.70 and 4.04. This means that their team dedication level was above the average. Of the five dimensions, fun at work, job evaluation, job identity, job participation, and job concentration, job identity scored the highest points with an M of 4.04; fun at work scored the second highest with 3.96; job evaluation was third place with 3.90; job concentration was the fourth with 3.89; job participation was rated last with 3.70. The result is the same as in Kao's study in 2007 [5], showing that job identity is the most important among athletes. It is suggested that more studies on different sports be carried out in the future to further explore and discuss athletes' team dedication.

Table 4. Team dedication indicator

Dimensions	Number of respondents	Average	Order
Fun at work	421	3.96	2
Job evaluation	421	3.90	3
Job identity	421	4.04	1
Job participation	421	3.70	5
Job concentration	421	3.89	4

### 3.4 Differences in college table tennis players' team dedication

Table 5. Differences of background variables between college table tennis team players' team dedication examined with the independent sample t- test

Background variables	Groups	Fun at work	Job evaluation	Job identity	Job participation	Job concentration
Gender	Male	0.20	0.32	0.31	0.34	0.09
	Female					
Past experience as gifted athletes	Yes	0.07	0.06	0.61	0.11	0.12
	No					

After a Scheffe post-hoc comparison of the data, college table tennis players whose duration of training time was equal to or more than three hours perceived more coach support than those whose duration of training time was one to two hours. As for perceived teammate support, college table tennis players whose duration of training time was equal to or more than three hours perceived the most teammate support than those whose duration of training time was two to three hours. And those whose duration of training time was equal to or less than one hour perceived least. When it comes to perceived school support, in terms of best team results, college table tennis players whose team was among top three in the national competitions perceived more school support than those whose team was among the top eight in national competitions. And those whose team was among the top eight perceived more school support than others. In terms of the seniority in high school sports teams, those who never joined their high school sports team perceived more teammate support than those who were part of their high school sports team for five or more years.

Therefore, it can be inferred that college table tennis players who had longer duration of training time would perceive more support from coaches and teammates. Furthermore, the more school support they perceived the better results the school team would acquire. In other words, when college table tennis players perceived more support from their school, they would dedicate

\* p < 0.05

Table 5 and Table 6 illustrate the differences in college table tennis players' team dedication. It can be inferred that no significant difference could be found among college table tennis players on whether they had been gifted athletes or not in terms of their gender, the seniority in high school sports team, and age. However, a significant difference had been found among college table tennis players in regards to the frequency of training per week, the duration of training, seniority in the school team, the best team results, and their current grades.

After a Scheffe post-hoc comparison of the data, college table tennis players who practiced three times per week had more job identity than those who practiced more than five times (including five times) per week. In terms of fun at work and job evaluation, those whose duration of training time was more than three hours (including three hours) had more fun at work and better job evaluation than those whose duration of training time was one to two hours. And those whose duration of training time was more than three hours (including three hours) had more job identity and better job concentration than those whose duration of training time was two to three hours or one to two hours. In terms of fun at work, those whose seniority in school team was three to four years had more fun at work than those whose seniority in school team was equal to or more than five years and less than one year (including one year). When it comes to job evaluation and job concentration, those whose seniority in school team was three to four years had higher job evaluation and job concentration than those whose seniority in school team was less than one year (including one year). As for fun at work, players who were in the second year of their master's degree had more fun at work than those who were seniors and sophomores.

From the above analysis, it can be inferred that the duration of training time is not an important factor in team dedication. Therefore, when coaches schedule training times for athletes, they have to allocate the training time appropriately to achieve the best training effects.

### 3.5 Correlation of college table tennis players' perceived team support and team dedication

Table 7 illustrates the correlation among dimensions of perceived team support and team dedication of college table tennis players. It can be inferred that there was a positive correlation among each dimension of perceived team support and team dedication. There is a highly positive correlation between perceived teammate support and job identity; the lowest correlation is between perceived school support and job concentration. O'Driscoll and Randall [4] pointed out that there is a significant correlation between perceived organizational support and job

dedication, an argument conforming to the result of this study. Therefore, it can be concluded that the level of team support does have a positive influence on team dedication.

Table 6. Differences of background variables between college table tennis<sup>a</sup>

Background	Groups <sup>a</sup>	A <sup>a</sup>	B <sup>a</sup>	C <sup>a</sup>	D <sup>a</sup>	E <sup>a</sup>	Scheffe's posterior
Frequency of training per week <sup>a</sup>	1. One <sup>a</sup>						No difference between C: > 5 <sup>a</sup>
	2. Two <sup>a</sup>						
	3. Three <sup>a</sup>	0.20	-0.04*	0.01*	0.03*	0.48 <sup>a</sup>	
	4. Four <sup>a</sup>						
	5. More than five (included) <sup>a</sup>						
Duration of training time <sup>a</sup>	1. Less than 1 hour (included) <sup>a</sup>						A and B: 4>2 <sup>a</sup>
	2. 1 to 2 hours <sup>a</sup>	0.01*	0.01*	0.01*	0.04*	0.01*	C and E: 4>3>2 <sup>a</sup>
	3. 2 to 3 hours <sup>a</sup>						D: No difference <sup>a</sup>
	4. More than 3 hours (included) <sup>a</sup>						
Seniority in school team <sup>a</sup>	1. Less than 1 year (included) <sup>a</sup>						A: 4>5>1 <sup>a</sup>
	2. 1 to 2 years <sup>a</sup>						B and E: 4>1 <sup>a</sup>
	3. 2 to 3 years <sup>a</sup>	0.01*	0.02*	0.10	0.02*	0.01*	D: No difference <sup>a</sup>
	4. 3 to 4 years <sup>a</sup>						
	5. More than 5 years (included) <sup>a</sup>						
Best team results <sup>a</sup>	1. Behalf of Taiwan participating <sup>a</sup>						C: No difference <sup>a</sup>
	2. Top 3 in national competitions <sup>a</sup>						
	3. Top 3 in national competitions <sup>a</sup>	0.08 <sup>a</sup>	0.30	-0.02*	0.82 <sup>a</sup>	0.19 <sup>a</sup>	
	4. Top 3 in local competitions <sup>a</sup>						
	5. Top 3 in local competitions <sup>a</sup>						
	6. Other <sup>a</sup>						
Seniority in high school sports team <sup>a</sup>	1. None <sup>a</sup>						
	2. Less than 1 year (included) <sup>a</sup>						
	3. 2 years <sup>a</sup>	0.95	-0.42 <sup>a</sup>	0.33 <sup>a</sup>	0.72 <sup>a</sup>	0.10	
	4. 3 years <sup>a</sup>						
	5. 4 years <sup>a</sup>						
	6. More than 5 years (included) <sup>a</sup>						
Current grade <sup>a</sup>	1. Freshman <sup>a</sup>						A: 6>4>2 <sup>a</sup>
	2. Sophomore <sup>a</sup>						B and C: No difference <sup>a</sup>
	3. Junior <sup>a</sup>						
	4. Senior <sup>a</sup>						
	5. First year of master's degree <sup>a</sup>	0.01*	0.02*	0.04*	0.18 <sup>a</sup>	0.16 <sup>a</sup>	
	6. Second year of master's degree <sup>a</sup>						
	7. Third year of master's degree <sup>a</sup>						
	8. Other <sup>a</sup>						
Age <sup>a</sup>	1. Less than 17 (included) <sup>a</sup>						
	2. 18 to 23 <sup>a</sup>	0.23 <sup>a</sup>	0.45 <sup>a</sup>	0.55 <sup>a</sup>	0.60	0.39 <sup>a</sup>	
	3. 24 to 27 <sup>a</sup>						
	4. More than 28 (included) <sup>a</sup>						

<sup>a</sup>p<0.05

Note: A=Fun at work, B=Job evaluation, C=Job identity, D=Job participation, E=Job concentration

Table 7. Correlation analysis of college table tennis players' perceived team support and team dedication

	Support 1	Support 2	Support 3
Dimensions	School support	Coach support	teammate support
Dedication 1	0.32**	0.48**	0.56**
Fun at work			
Dedication 2	0.33**	0.46**	0.54**
Job evaluation			
Dedication 3	0.34**	0.53**	0.61**
Job identity			
Dedication 4	0.32**	0.43**	0.46**
Job participation			
Dedication 5	0.29**	0.46**	0.51**
Job concentration			

\*\* p < 0.01.

## 4. CONCLUSIONS

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

1. College table tennis players were aware of the support from their team members most.
2. Table tennis players showed no significant difference in realizing team dedication among gender, frequency of training per week, seniority in school team, current grade and age.
3. There was a significant difference among college table tennis players in terms of the past experience as gifted athletes, the duration of training time, the best team results, and the seniority in their respective high school sports team.
4. According to the team dedication indicator, the sense of community among college table tennis players was the highest.
5. No significant difference could be found among college table tennis players on whether they had been gifted athletes and not in terms of their gender and the seniority in their respective high school sports team.
6. A significant difference had been found among college table tennis players in regards to the frequency of training per week, the duration of training, the best team results and their current grades.
7. There had been a correlation between team support and team dedication among college table tennis players.

and Sowa, D. Perceived organizational support. *Journal of Applied Psychology*, 71, 500-507, 1986.

## REFERENCES

- [1] Department of Physical Education, Ministry of Education. Each person, one sport; each school, one team. Taipei, 2002.
- [2] Huang, C.H. and Lin, S.W. The study of operation and management about Chienkuo Institute of Technology athletic teams, *Chienkuo Journal*, 19, 163-168, 2002.
- [3] Eisenberger, R., Huntington, R., Hutchison, S. and Sowa, D. Perceived organizational support, *Journal of Applied Psychology*, 71, 500-507, 1986.
- [4] O'Driscoll, M. P. and Randall, D. M. Perceived organizational support, satisfaction with rewards, and employee job involvement and organizational commitment, *Applied Psychology*, 48, 197-209, 1999.
- [5] Kao, C.S. Study on the relationship among team support, team dedication and team cohesion: university badminton team, Tainan city: Tai xue, 2007.
- [6] Gregoire, T. K., Propp, J., and Poertner, J. The supervisor's role in the transfer of training, *Administration in Social Work*, 22, 1-18, 1998.
- [7] Huang, C.H. The study of the influence factor about transfer of learning, National Sun Yat-san university, Kaohsiung, 1999.
- [8] Jiang, W.Y. The study of evaluation of training effectiveness, National Central university, Taoyuan, 1999.
- [9] Eisenberger, R., Huntington, R., Hutchison, S.,