

## Factors affecting participation motives of selected table tennis teams

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**Abstract:** the study identified and determined the factors (gender, age, and number of competitive years of experience) affecting participation motives among six selected varsity table tennis teams coming from the UAAP and NCAA. Respondents completed a demographic questionnaire and the 28-item Sport Motivation Scale. This was utilized to identify their motives for participating in table tennis. The Relative Autonomy Index (RAI) was then computed from the responses gathered. Descriptive statistics and independent sample t-test were used to analyze the results. Further analysis using multivariate factorial design was also used to determine further interactions between categorical variables and motivation. Results showed that there exist significant differences in participation motives in terms of gender as male table tennis athletes scored higher in Extrinsic Motivation – Introjected, Extrinsic Motivation – External Regulation, Amotivation, and RAI score as compared to females. A significant difference in participation motives was also found in terms of age where the 16-18 years old athletes scored higher in Intrinsic Motivation – to Know, Amotivation and RAI score than those who are 19-24 years old. In terms of number of competitive years of experience, no significant differences were found in participation motives. This indicates that participation motives of selected varsity table tennis athletes are affected by their gender and age. Male athletes favoured the more controlled function as compared to the female athletes. Also, participation motives of the respondents deviate from the most self-determined motives to the lesser ones as they age. Multivariate analysis also showed that among the three categories, gender had the most influence in the motivation of the respondents. Motives for participating in table tennis are not a matter of players being pumped up for games. Instead, it is a continuous process of conditioning ones self to automatically give their best efforts whenever they are on the court.

**Keywords:** participation, intrinsic motivation, extrinsic motivation, relative autonomy index.

### 1. INTRODUCTION

Motivation is the tendency to pursue and continue an activity or sport. There are two types of motivation: Intrinsic motivation, demonstrated when a person performs an action for the pure enjoyment of it, without a primary urge to obtain external rewards and without being excessively burdened by the fear of failure, and extrinsic motivation, behaviors that a person exhibits as a means to an end; hence factors that are external to the athlete. The motives of sports participants vary not only in terms of intrinsic and extrinsic motivation, but also in how self determined these motives are. One of the most widely applied theoretical approaches to these types of motivation is the self-determination theory (SDT) [6]. SDT also involves the concept of amotivation, or having no sense of purpose and lacking intent to engage in a particular behavior. SDT posits that the different types of motivation range on a continuum from high to low self-determination: intrinsic motivation – to know (IM – K), intrinsic motivation – to accomplish (IM – A), intrinsic motivation – to experience stimulation (IM – ES), extrinsic motivation – identified (EM – Id), extrinsic motivation – introjected (EM – In), extrinsic motivation – external regulation (EM – ER), and amotivation (AMO) [6].

Motives of athletes may differ based on their age, gender, or years of experience as players. Evidence

from prior research supports that, generally, youngsters are found to have a variety of motives for sports participation which include fun, fitness, competence and skill improvement [3] while adults participate in sports and exercise for a sense of achievement, skill development, and to spend “luxury time” on themselves away from daily responsibilities [1]. Similarly, the study of Kondric and Furjan-Mandic [4] gave substantiations that among the motives for veteran athletes, the highest mean values were ascribed to all benefits which sport gives especially in health, thus, showing that their intrinsic motivation is important. In addition, a very recent study on gender differences in motives for participation in sport among male and female players was done by Marwat et al. [3] where they concluded that there exists little variation in the order of motives among male and female. Male players have placed health, fun, and relief of the mental tension, personal identity and team spirit among the top five motives for participation in sports. On the other hand, female students have kept health, fun, personal identity, team spirit and relief of the mental tension among the top five motives.

The condition of being “motivated” leads to much-desired outcomes. Looking at the motives of athletes is significant in sports events as it tells exactly why one is motivated or not to participate in sports.

## 2. METHODOLOGY

### 2.1 Participants

Respondents included 81 collegiate athletes (male = 41, female = 40) mean age 18.67 y. with an average of 2.33 years of competitive experience in their respective leagues. Teams were selected via the point system used in the leagues they participated in – UAAP and NCAA.

### 2.2 Procedure

A survey was done using the Sport Motivation Scale (SMS) – 28 [5] to illustrate and identify the participation motives of respondents based on the 7 subscales of the Self-determination theory. Gathered data were tallied then scores on participation motives were given weights to get the Relative Autonomy Index (RAI). The RAI is a single score derived from the subscales that gives an index of the degree to which respondents feel self-determined. Controlled subscales (EM-In, EM-ER, AMO) are weighted negatively, and the autonomous subscales (IM and EM-Id) are weighted positively. As results were tabulated, the scores on participation motives and RAI were measured for significant differences based on gender (male vs. female), age (16-18 years old vs. 19-24 years old), and years of competitive experience (1-2 years vs. 3-5 years).

### 2.3 Statistical analysis

Descriptive statistics and independent sample t-test were used to analyze the results. A multivariate factorial design approach was also conducted to further analyze the categorical variables and their influence on motivation. Data analyses were conducted using Statistical Package for Social Sciences Inc. (SPSS) version 19 (SPSS 19, IBM Corp., NY, USA) and Microsoft Excel 2003 version. All tests were assessed at 5% level of significance.

## 3. RESULTS

The averages of responses as shown in Table 1 identified IM - K as the highest response ( $\mu=5.84$ ) and IM – ES as the second ( $\mu=5.73$ ). Amotivation has the least response with  $\mu=3.24$ . RAI mean shows that participation motives of the participants favored the autonomous subscales. This just shows that respondents in this study participate in table tennis mostly because of their eagerness to learn and to experience the thrill that the sport gives them.

Table 1 Descriptive statistics of overall participation motives

	N	Mean	Std. Dev.
<b>IM – K</b>	81	5.84	1.03
<b>IM – A</b>	81	5.69	0.90
<b>IM – ES</b>	81	5.73	0.87
<b>EM – Id</b>	81	5.57	0.92
<b>EM – In</b>	81	5.08	1.08

<b>EM – ER</b>	81	5.00	1.11
<b>AMO</b>	81	3.24	1.40
<b>RAI</b>	81	3.59	5.97

Descriptive statistics of gender as a categorical variable is shown in Table 2. It showed that the EM - In of males were significantly higher than females. Also, the EM – ER of males were higher compared to females. Similarly, scores of amotivation from males were higher than females. Males exhibited lower relative autonomy index than females.

Table 2 Descriptive parameters and participation motives of players in terms of gender

Variables	Males		Females	
	Mean	Std. D.	Mean	Std. D.
<b>Age</b>	18.8	1.7	18.6	1.7
<b>Yrs of Exp</b>	2.3	1.3	2.4	1.2
<b>IM-K</b>	5.8	1.1	5.9	1.0
<b>IM-A</b>	5.8	0.7	5.6	1.0
<b>IM-ES</b>	5.7	0.8	5.8	0.9
<b>EM-Id</b>	5.6	0.8	5.5	1.0
<b>EM-In</b>	5.4	0.8	* 4.7	1.2
<b>EM-ER</b>	5.4	0.8	* 4.6	1.2
<b>AMO</b>	3.7	1.3	* 2.8	1.3
<b>RAI</b>	1.3	5.1	* 5.9	5.9
<b>*significant at 0.05 level alpha</b>				

Descriptive statistics of age as a categorical variable is shown in Table 3. It showed that the IM – K of the 16-18 years old bracket were higher than that of the 19-24 years old bracket. Also, the AMO of the 16-18 years old bracket were higher than that of the 19-24 years old bracket. There was also a significant difference between RAI scores where players who are 16-18 years old scored higher than the 19-24 years old athletes.

Table 3 Descriptive parameters and participation motives of players in terms of age

Variables	16-18 y. old		19-24 y. old	
	Mean	Std. D.	Mean	Std. D.
<b>Yrs of Exp</b>	1.07	0.26	* 1.78	0.42
<b>IM-K</b>	6.15	0.79	* 5.53	1.15
<b>IM-A</b>	5.86	0.92	5.53	0.85
<b>IM-ES</b>	5.84	0.76	5.63	0.98
<b>EM-Id</b>	5.55	0.91	5.59	0.95
<b>EM-iN</b>	4.99	1.14	5.18	1.01
<b>EM-ER</b>	4.93	1.12	5.08	1.11
<b>AMO</b>	2.60	2.94	* 1.37	2.86
<b>RAI</b>	4.77	5.8	* 2.39	5.97
<b>*significant at 0.05 level alpha</b>				

Table 4 shows the demographics and motivational parameters using the years of experience as the categorical variable and identified that no significant differences were discovered from variables in participation motivation. There is, though, a significant

difference in RAI score where athletes with lesser years of competitive experience scored higher.

Table 4 Descriptive parameters and participation motives of players in terms of number of competitive years of experience

Variables	1-2 years		3-5 years	
	Mean	Std. D	Mean	Std. D
Age	17.7	1.1	20.1	1.3
IM-K	6.0	0.9	5.6	1.1
IM-A	5.8	1.0	5.6	0.8
IM-E	5.7	0.8	5.7	1.0
EM-Id	5.6	0.9	5.6	1.0
EM-in	5.1	1.1	5.1	1.0
EM-ER	4.9	1.1	5.1	1.2
AMO	3.2	1.4	2.3	2.9
RAI	4.1	5.9 *	3.0	6.1

\* significant at 0.05 level alpha

Table 5 shows statistical data using a multivariate factorial design. Interaction between categories and motivation subscales showed that gender had 26.3% Pillai's Trace significant influence in motivation.

Table 5 Multivariate test of gender, age, years of experience and motivation

Effect		Value	F	Hyp. df	Error df	Sig.	Eta Squared	Noncent. Parameter	Observed Power
Intercept	Pillai's Trace	.985	669.062	7.000	71.000	.000	.985	4683.431	1.000
	Wilks' Lambda	.015	669.062	7.000	71.000	.000	.985	4683.431	1.000
	Hotelling's Trace	65.964	669.062	7.000	71.000	.000	.985	4683.431	1.000
	Roy's Largest Root	65.964	669.062	7.000	71.000	.000	.985	4683.431	1.000
AGE	Pillai's Trace	.124	1.439	7.000	71.000	.203	.124	10.075	.568
	Wilks' Lambda	.876	1.439	7.000	71.000	.203	.124	10.075	.568
	Hotelling's Trace	.142	1.439	7.000	71.000	.203	.124	10.075	.568
	Roy's Largest Root	.142	1.439	7.000	71.000	.203	.124	10.075	.568
GENDER	Pillai's Trace	.263	3.615	7.000	71.000	.002	.263	25.302	.960
	Wilks' Lambda	.737	3.615	7.000	71.000	.002	.263	25.302	.960
	Hotelling's Trace	.356	3.615	7.000	71.000	.002	.263	25.302	.960
	Roy's Largest Root	.356	3.615	7.000	71.000	.002	.263	25.302	.960
YRSEXP	Pillai's Trace	.056	.605	7.000	71.000	.750	.056	4.234	.243
	Wilks' Lambda	.944	.605	7.000	71.000	.750	.056	4.234	.243
	Hotelling's Trace	.060	.605	7.000	71.000	.750	.056	4.234	.243
	Roy's Largest Root	.060	.605	7.000	71.000	.750	.056	4.234	.243

a. Computed using alpha = .05  
b. Exact statistic  
c. Design: Intercept+AGE+GENDER+YRSEXP

#### 4. DISCUSSION AND CONCLUSION

Most foreign literatures have varied results when comparing participation motives between genders. However, a trend which is consistent is that males favoured motives that concern competence and experience stimulation, while females favoured

motives that pertain to intrinsic factors such as accomplishing and maintaining good health and appearance [6]. A lower score on the relative autonomy index shows that males scored higher on the controlled subscales, the three least self-determined aspects of the scale, as compared to their female counterparts. Due to this, it could be presumed that male collegiate table tennis athletes participate in their sport because of the tension or pressure that they feel within if they do not train or play. On the other hand, female athletes scoring extremely higher on RAI as compared to the male athletes implies that their participation in table tennis is highly autonomous.

Hence, it can be concluded that male athletes are more susceptible to weakening of intrinsic motivation, which may further affect their success in the sport. Females, on the other hand placed less emphasis on the controlled subscales and may eventually become more successful than the males.

Significant differences were also observed in terms of age. It was observed on the data gathered that as players got older, their years of experience proportionately increased. There was an inverse relationship between age and intrinsic motivation – to know as well as between age and amotivation determining that relatively 'new' players belonging to the 16-18 years old age bracket are more intrinsically motivated to know/learn as compared to the players in the 19-24 age bracket.

Likewise, it can also be determined that players belonging to the 16-18 years old age bracket may still be unsure on why they are playing the particular sport. Despite the inverse relationships found between age and IM – K and AMO, the younger age bracket scored higher on RAI which shows that their motives for participation

are still more autonomous in function than the older age bracket.

The relationship seems to behave differently as younger age bracket scored higher on both the most and least self-determined participation motive. This may be attributed to the unique core value of Filipinos known as *kapwa* and surface value *pakikisama*. As Enriquez [2] described, “*kapwa* is the recognition of a shared identity or shared inner-self” and “*pakikisama* is the giving into another’s demands, wishes, or desires; often motivated by politeness or inner favor or reward.” As result of this value, Filipinos acquired principles such as people-centered orientation, service to others and commitment to the community.

We can relate the relationship between participation motives and age/number of competitive years of participation to the core value *kapwa* and surface value *pakikisama*. Collegiate table tennis athletes may derive their motivation from the coach’s, their parents’ or teammates’ request for them to play. Athletes may develop and obtain other types of motives for participating in table tennis but they choose to stick around because of their sense of shared self with their team mates and coaches. This unconscious attachment to teammates and coaching staff may be considered as controlled, or external, motives for participating in table tennis. Also some of the players, although they can graduate in 4 years, are requested by their coach or sports director to extend for another year in order to play.

Therefore, it may be concluded that the unique result found between age and participation motives may be attributed to the indigenous culture and psychology that Filipinos have and to the need for self belongingness and attachment that these athletes have with their peers.

There were also no significant differences found between participation motives in terms of the number of competitive years of experience an athlete may have (1 to 2 years vs. 3 to 5 years). It can therefore be concluded that number of competitive years of experience is not a strong factor that affects participation motives of selected varsity table tennis athletes.

The multivariate test also showed that with the interaction of the three categorical variables, it was gender which had a significant influence in motivation. Since age and years of experience are insignificant, we can say that gender is the factor that affects motivation. This can be derived from the fact that males have higher pressure in pursuing their chosen sport and to excel in it as compared to females. This demand can be attributed to societal expectations which in turn drive male motivation towards extrinsic motives.

With the objectives of the study fulfilled, it can be concluded that age and gender have strong effects on participation motives of collegiate table tennis athletes. It will be beneficial for coaches to understand how each of these factors affects the participation motives of their players in order for them to utilize such

motives to the improvement and development of their athletes.

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