



## Investigating Constraints on University Students' Participation in Physical Activity Programs in Greece

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### ABSTRACT

*The purpose of this study was to investigate whether the three categories of constraint factors (Intrapersonal, interpersonal and structural) and students perceptions of service quality, affects students participation in exercise programs to Recreation Sport Center Campus of Aristotle's University of Thessaloniki. The study sample comprised of 700 college students participated to nine different schools of Aristotle University of Thessaloniki (AUTH). Results revealed that a) the majority of students (76%) did not participate in exercise programs, b) non participants to programs experienced stronger constraints than participants, c) there was a high positive correlation between service quality and intention to continue participation to programs and d) quality of services appear to predict students' intention to continue their participation. The results of the present study may help administrators of Recreation Sport Center Campus to improve programs and services in order to meet students needs contributing to increased participation and better quality of life.*

**KEYWORDS :** constraints, physical activity, university students, campus recreation.

### Introduction

Regular physical activity promotes physical, psychological and social benefits for human health. Even though people are aware of exercise benefits often choose to adopt unhealthy life habits and behavior for personal and practical reasons as well.

Studies related to students physical activity level posits that 35 - 42% do not follow the 150 minutes of proposed weekly physical activity (Miller, Staten, Rayens & Noland, 2005). Similar research to Greek population shows that students' participation percentage to physical exercise programs reaches 9.11% (Masmanidis, Tsigilis & Koustelios, 2002). Because of minimal participation to physical activity, research focuses to participation constraint factors (Gyurciket al., 2004; Kilpatrick et al., 2005).

Participation constraints are defined as the factors perceived and/or experienced limiting recreational preference formulation and prevent and/or forbid participation and enjoyment of the activity during free time (Jackson, 1991). According to the model of constraint factors released by Crawford and Godbey (1987), constrain factors could be organized into three categories a) intrapersonal, b) interpersonal and c) functional or structural.

Research to Greek population by Alexandris & Carroll (1997) confirmed intrapersonal constrain factors importance, supporting personal psychological factors influence for people's participation to physical activity and exercise.

Research evidence on constrain factors that influence university students revealed that lack of access was the most restrictive factor for participation to physical activity and exercise programs, whereas lack of services and lack of company were the second most important factors (Drakou, Tzetzis & Mamantzi, 2008).

Furthermore, research results from seven higher education institutions by Masmanidis, Gargalianos & Kosta (2005), to Greek population indicated as most significant constrain variables for students' participation the accessibility, lack of information and lack of facilities/services.

Service quality has been defined as the total consumer impression of superiority or inferiority offered by certain service consulting body (Keiningham, Zahorik & Rust, 1994-95).

In Greece Afthinos, Theodorakis & Nassis (2005) attempted to investigate service quality to private gyms. They verified the most significant elements to service quality were: tangible facilities, staff competence and behavior, programming and organizing provided services cost.

Major goal to present study was to examine constrain factors that influence students participation to physical exercise programs in Aristotle University of Thessaloniki along with their beliefs for provided service quality.

### Method

#### Participants

198 male (Mage = 21.94 ± 4.63) and 502 female (Mage = 21.36 ± 3.49) students from nine academic schools of Aristotle University of Thessaloniki participated to this study.

#### Measures

To evaluate constrain factors Allexandris and Carroll's (1997) constraints questionnaire was utilized into six dimensions, namely: a) lack of time, b) personal/ psychological c) lack of interest, d) accessibility e) lack of partnership and f) lack of knowledge/information. Instruments construct validity and internal consistency has been tested to previous research by (Alexandris & Carroll, 1997a). The instrument was answered to 7 point Likert scale (1 =totally disagree – 7 totally agree).

SERVQUAL model was used to measure service quality as it has been modified by Alexandris et al. (2002). The model includes 26 items to distribute five service quality dimensions: a) tangibles, b) personnel, c) correspondence, d) reliability and e) outcome. SERVQUAL instrument has been tested for internal and external construct validity and reliability to Greek population (Alexandris et al., 2002).

Intention for participation was assessed by three questions which counted their determination to be active members of the gyms for more than six months.

#### Procedure

Questionnaires were distributed to students 15 minutes prior to exercise sessions. The participants were gathered to isolated rooms where information on the purpose of the study and the procedure to be followed were given by trained researchers. Personal information was retained private therefore the participants were also requested not to exchange any information during or prior questionnaires completion (Tabachnick & Fidell, 2013). The collected data were entered to SPSS 19 and further analysed by exploratory statistical methods.

### Results

#### Descriptive statistics

Men participants accounted for the 28.2% of the sample whereas women accounted for the 71.6% on a total of 700 students. Data descriptive analysis revealed that only 23.9% (N=167) actively participated to university physical activity programs. Only 6.6% (N= 46) of the participants postulated that participation frequency ranged from

3-5 times per week instead of 8.8% (N= 62) who participated once or twice weekly. Students preferred mostly weight lifting (11%, N= 77) and aerobic classes (8.1%, N=57) from a range 20 programs in total. Freshman accounted for less participation (10%), than second years 26% and fourth years 23.7%. Third year students had the largest participation percentage 31.8%. A small number of last year students exited fourth year participated to the programs (8.6%).

**Descriptive and reliability statistics**

Cronbach's  $\alpha$  reliability coefficients were calculated for all variables so as to define instruments internal consistency. All results were significantly high above acceptable levels. (Trochim, 2006). Highest  $\alpha$  coefficient has been accounted for personal/ psychological variable ( $\alpha=.91$ ) in contrast to lack of time which had the lowest one ( $\alpha=.74$ ) (Tabachnick & Fidell, 2013). Mean scores and standard deviations were satisfactory showing normal distribution of variance. Service quality variables had also reliability coefficients in acceptable limits ranging between  $\alpha=.93$  for outcome variable and .84 for reliability variable. Finally intention variable had high reliability coefficient  $\alpha = .94$

**Table 1. Descriptive and reliability statistics**

Constrain Variables	M	SD	Cronbach's $\alpha$
c_inter	2.37	1.36	.89
c_time	4.22	1.38	.74
c_psysc	2.99	1.34	.91
c_know	2.81	1.73	.85
c_acce	4.54	1.87	.75
c_partn	3.71	1.50	.77
SERVQUAL Variables			
tangibles	4.93	1.11	.88
personal	4.81	1.21	.92
responsiveness	4.32	1.30	.90
reliability	4.82	1.14	.84
outcome	5.21	1.08	.93
Intention Variable	3.82	2.13	.94

**Differences in constrain factors due to participation**

Independent samples t-test was conducted for constrains as dependent variable and participation and non participation as grouping variable (Tabachnick & Fidell, 2013). Results indicated that non participants experienced higher constraints than participants. Statistically, significant differences were found for lack of knowledge/information ( $t= 7.4, p<.001$ ), lack of interest ( $t= 3.7, p<.001$ ), accessibility ( $t= 3.1, p=.002$ ) personal /psychological ( $t= 2.1, p=.03$ ) and lack of company ( $t= 2.4, p=.017$ ). Time limitation showed no significant results

**Table 2. Independent samples t-test for participation**

Variables	M part.	M non- part.	t values	p
Lack of Interest	2.03±1.22	2.47±1.4	3.7	<.001
Lack of Time	n.s			
Personal / Psychological	2.8±1.3	3.05±1.35	2.19	.03
Lack of Knowledge / Information	1.97±1.26	3.07±1.7	7.4	<.001
Accessibility	4.15±1.98	4.67±1.83	3.13	.002
Lack of partnership	3.46±1.6	3.78±1.46	2.4	.017

**Correlation Analysis on constraints and intention for participation**

Correlation analysis indicated relationships between constraints and intention for participation to physical activity programs. Intention as it was expected had non significant or very low relationship to constraint factors. Interest had highly significant relationship to psychological factor ( $r = .65, p<.001$ ). Accessibility showed medium correlation to partnership ( $r = .389, p<.001$ ).

**Table 3. Correlation analysis results.**

	1	2	3	4	5	6	7
1. intent		-.190**	ns	ns	-.091*	-.118**	ns
2. inter			.244**	.650**	.334**	.183**	.292**
3. time				.366**	.174**	.179**	.202**
4. psyc					.295**	.250**	.302**
5. know						.216**	.338**
6. acce							.389**
7. partn.							

\* p<.05, \*\*p<.01

**Intention for participation prediction by service quality**

Regression analysis using enter method was utilized to predict intention for participation by service quality variables (Borovkov, 1999). According to our results intention was significantly predicted by service quality to physical activity at the university programs ( $F(3, 689) = 6.3, p<.001$ ).

Specifically, outcome ( $t=2.9, p<.01$ ) and responsiveness ( $t=2.1, p<.05$ ) were significant predictors for participation intention (Table 4). The total prediction for intention was 15% ( $R^2 = .15$ ).

**Table 4. Regression Analysis results.**

Variables	B	t	p
Tangibles	-.09	-.50	n.s
Personnel	.20	1.3	n.s
Responsiveness	.30	2.1	.05
Reliability	.30	1.5	n.s
Outcome	.40	2.9	.01

$F_{(3, 689)} = 6.3 p<.001, R^2 = .15$

**Discussion**

The present study was conducted to investigate whether the three categories of constrain factors (intrapersonal, interpersonal and structural) along with students perceptions on service quality influence physical activity programs participation at university gyms.

According to our results most of the students (76%) do not participate to programs. Revues by other researchers agree to our findings with more than 50% of students accounted as non participants even though university programs offer satisfactory environment for physical activity development (Keating, Guan, Pinero and Bridges, 2005; Sabourin & Irwin, 2008).

Non participants to physical activity programs strongly experienced intrapersonal and structural constraints such as access difficulties, lack of information for exercise programs, lack of interest for exercise, personal and psychological constraints and lack of partnership.

Transportation to gym difficulties advance as the most important reason for not participating due to the fact that most of the students are located to city's centre far from university gyms. Research findings report limited access and distance from exercise facilities to be related to low physical activity levels (Lovell, Ansari & Parker, 2010). Lack of information and participation potentiality for physical activity programs reflects directly or indirectly to advertisement and marketing promotion limitations.

Personal/psychological reasons are significant constrain factor for participation. Research findings confirm personal/psychological element to be responsible for non participation to the majority of exercisers involved in recreational activities. Additionally, a possible reason for non participation by many exercisers is the lack of companions (Ryckman and Hamel, 1992).

Moreover, according to the present study students seemed to be satisfied by service quality in gyms. They intended to continue participating to physical activity programs. Students posited they were satis-

fied by facilities (tangibles), personnel, final outcome, responsiveness and personnel reliability. Another crucial factor is exercise and service quality outcome. Personnel responsiveness to students needs and the final outcome seemed to influence to a point their intention to continue participation to programs. Recent research by Alexandris et. al. (2004) suggests outcome variable to be crucial factor to determine costumers' satisfaction and intention for participation.

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