

UNIVERSITY CAMPUS QUANTITATIVE ANALYSIS WITH SOCIO-SPATIAL FUNCTIONALITY: THE ALEXANDER INSTITUTE OF TECHNOLOGY (THESSALONIKI) CASE STUDY

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Abstract: Aim of this research is to analyze spatial preferences and behavior of university students. Understanding of interactions between students and spatial structure can be useful for a more rational spatial planning of campus areas. The results have been produced by descriptive and analytic statistics based on 455 standardized questionnaires answered students of Alexander University Institute of Technology of Thessaloniki as well as in-depth interviews. The most preferable built - artificial element instead of flora is a place of amphitheater form, second comes picnic kiosks, third the normal golf court, fourth outdoor table tennis and the big chessboards, fifth tennis ground, and last archery place. Generally, the preferences among built or flora elements are quite balanced. The promenade is generally more usual free-time behavior practice than the picnic. The indoor space, particularly the student cafeteria seems to be the most attractive one both for either socializing, or isolation. After cafeteria the restaurant comes second for socialization in students' preferences, while the lawn is preferable for isolation. The female students suggested the creation of a tennis ground, theater place and water works. Younger students are more stimulated by the original idea of archery and normal golf court as well as by the aesthetic value of art works, while older ones are more attracted by tennis, mini-golf, theater place, outdoor table tennis, water and garden works. Students whose accommodation is in the nearest town of Sindos have the opposite preferences of these who live in the further city of Thessaloniki.

Keywords: landscape sociology, spatial planning, urban forestry, socializing, landscape preferences, campus, students

1. Introduction

Aim of this paper is to analyze spatial preferences and behavior of university students. Understanding of interactions between students and spatial structure can be useful for more rational spatial planning of campus areas and more accurate assessment of the role of urban forestry interventions. The empirical information provided this research may be useful for a more rational and acceptable design of a university campus.

Such information is useful because the universities as a rule are surrounded by campus which influences to certain extent the disposition, the behavior and the social relations of the

students. It must thus be emphasized that empirical data should also be taken into account by landscape designers and planners additionally to their subjective aesthetic inspiration.

2. Literature Review

There are various papers about university campuses regarding energy, waste management or parking issues (e.g. Bonnet et al. 2002, Kelly et al. 2006, Mason et al. 2003, Shang et al. 2007). However, there is a lack of literature about the impacts of spatial structures of a campus on the social structures and the behavior of students or about student attitudes toward campus landscape.

Literature about behavior-related impacts of spatial structures have been developed mainly regarding children playgrounds (Reilly and Dorosty 2004, Mauffette et al 1999, Herrington 1999, Herrington and Studtmann 1998, Kylin 2003, Moore 1986, Olds 2000 and Rivkin 1995, Moore and Young 1978). Such literature is still not strongly focused on quantitative empirical studies. Thus, this is an innovative paper in these fields.

3. Method & Area of Study

The results have been produced by descriptive and analytic statistics based on 455 standardized questionnaires answered students of Alexander University Institute of Technology of Thessaloniki (Picture 1) as well as in-depth interviews. The questionnaires have been distributed to students of all departments of the university during mandatory attendance of laboratory exercises, after random selection of laboratory courses from the curriculum. Thus, all laboratory courses had equal probability to be selected. Thereby, the sample can be regarded as representative for the student population of the university and the descriptive statistics as reliable. The analytic statistics has been conducted by Pearson test ($p \leq 0.05$)

The particular university campus has been selected as research area because it is characterized by certain variety of spatial structures (water work, multifarious flora and built elements). It is located at the border of small town (Sindos) and about 13-15 km from the centre of a big city (Thessaloniki). It includes also various facilities (dormitory, cafeteria, restaurants). As it is quite far away from the big city, the students spend more free time within campus and/or are more interested about how an ideal campus could be.



Fig. 1. The Alexander Institute of Technology (located at Sindos, Thessaloniki, Greece)

4. Results

4.1 Descriptive Statistics

In Diagram 1, the most preferable built element instead of flora is a place of amphitheater form where the students are going to watch alternative live entertainment programs, second comes picnic kiosks, third the normal golf, fourth outdoor ping-pong and the big chessboards, fifth tennis ground, and last archery place. All of them are technically feasible at the extensive area of the campus. This is understandable, considering the expectation of collective entertainment.

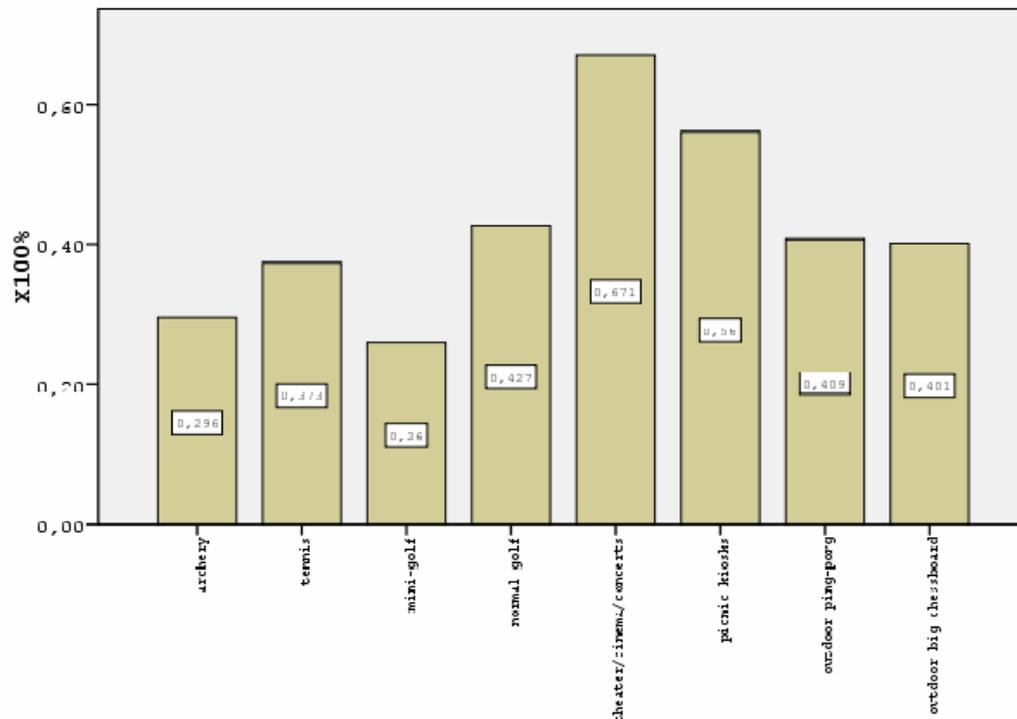


Diagram 1. Comparative preference for built elements instead of flora elements

In Diagram 2, however, the specific preferences for built or flora elements are quite balanced. Approximately similar percentages (35-42%) are shared to the four alternatives: a) art works, b) water works, c) ethno-botanic garden, and d) floriculture. Namely, both biotic and abiotic decorative elements seem to be equally necessary for the satisfaction of the landscape users. The floriculture is less preferred than the other three elements as it is not so original but rather a usual and thereby monotonous alternative.

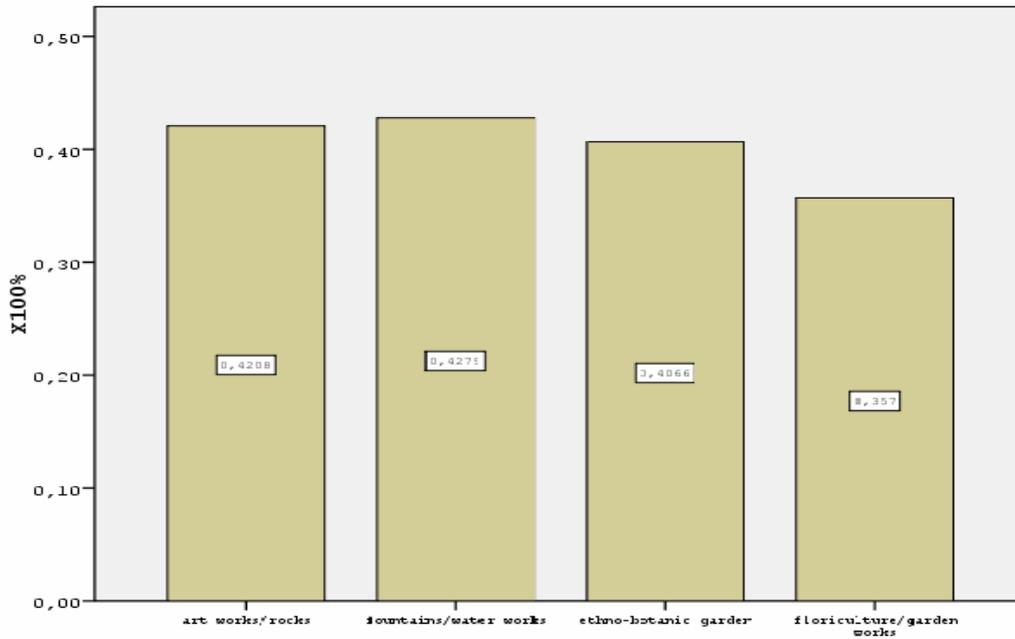


Diagram 2. Specific preferences for built and flora elements

In Diagram 3, the promenade is generally more usual free-time behavior practice than the picnic. Within both practices of free-time behavior the most preferable socialization patterns are the life-partnership or the friendship. This is understandable; taking into account that the campus is easily accessible mainly by students who create relations of life-partnership or friendship within the university and it is not the most preferable for families or individual visitors.

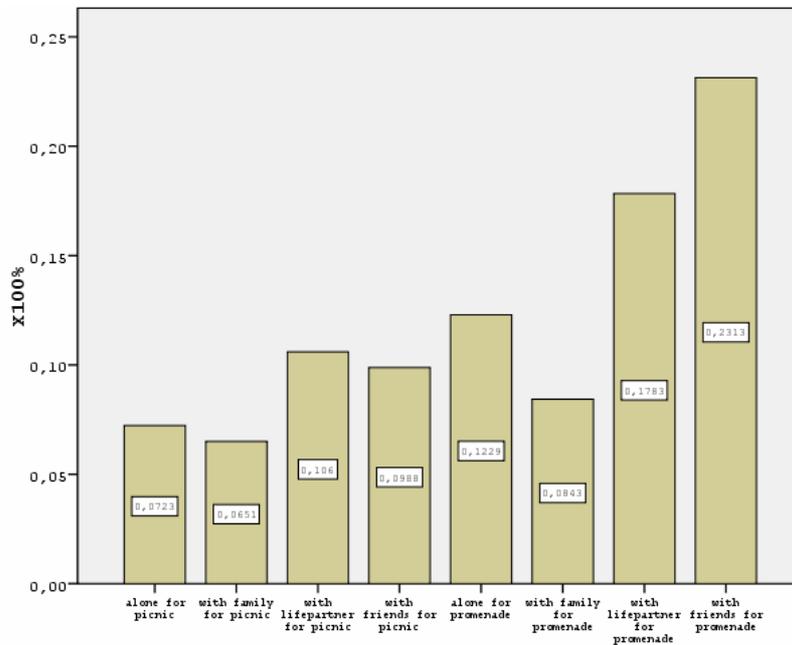


Diagram 3. Socialization patterns and free-time behavior visiting campus in holidays

In Diagram 4, the indoor space, particularly the student cafeteria seems to be the most attractive one both for socializing and isolation under condition of sun-shining. After cafeteria comes for the restaurant; the second preferable place for socialization, while the lawn for isolation. This can be attributed to the fact that cafeteria offers the opportunity of spending quite long time quite inexpensively and it is accessible much longer during the day than the restaurant which is open for shorter time.

The lawn appears to be most appropriate for isolation as it covers an enormous area of the campus. Thereby, it offers enough space for several individual students who desire to walk or to relax alone.

The rest spatial elements are of similar relevance for both socialization and isolation. The dormitory is the least desirable place both for socialization and isolation. As it is just a place of a particular use (sleeping), in which the student spend quite a long part of the day (the whole night) and thereby feel this as monotonous for any further use.

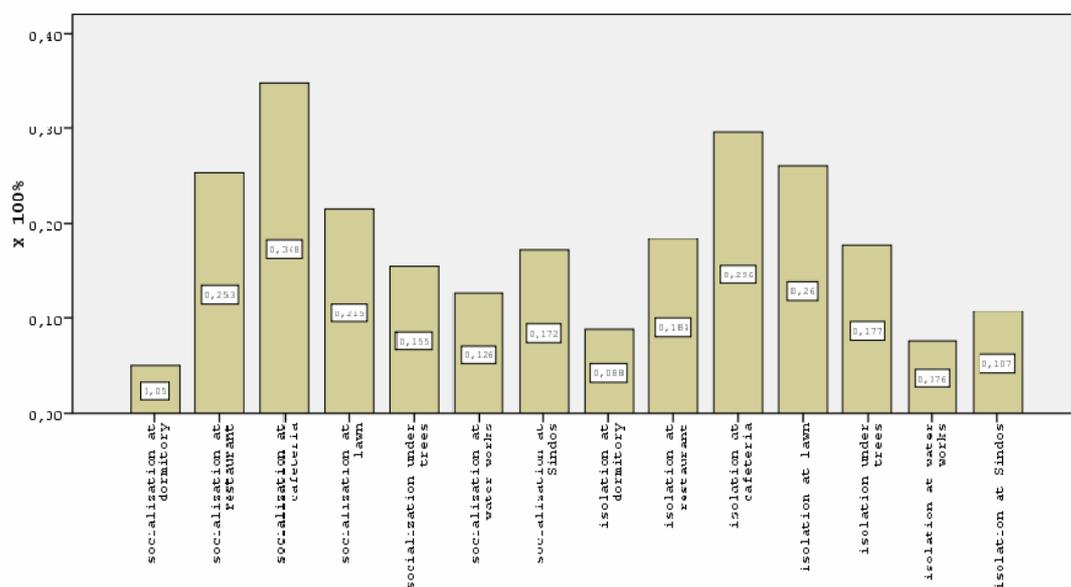


Diagram 4. Socializing and isolation (under condition of sun-shining)

4.2 Socio-Spatial Determinants of Landscape Preferences

In Table 1, it is notable that the female students prefer the creation of a tennis ground, theater place and water works. Younger students are more stimulated by the original idea of archery and normal golf as well as by the aesthetic value of art works, while older ones are more attracted by tennis, mini-golf, theater place, outdoor ping-pong, water and garden works. These who live at the student dormitory are indifferent or equally stimulated by any landscape management scenario. Students who live in Sindos have the opposite preferences of these who live in the further Thessaloniki. Sindos students prefer archery and art works while Thessaloniki students prefer theater place, outdoor ping-pong, water and garden works. This can be in part attributed to facilities which cannot be found in Sindos and Thessaloniki respectively.

Table 1. Socio-spatial determinants of landscape preferences

	Gender (male=1, female=2)	Year of enrollment	Residence at student dormitory	Residence at town Sindos	Residence at further city Thessaloniki
Archery	0.073	-0.249(**)	-0.073	0.227(**)	-0.185(**)
	0.138	0.000	0.140	0.000	0.000
Tennis	0.105(*)	0.147(**)	0.054	-0.097	0.061
	0.034	0.003	0.280	0.051	0.222
Mini- golf	-0.064	0.137(**)	0.049	-0.096	0.035
	0.202	0.007	0.331	0.057	0.489
Normal golf	-0.067	-0.105(*)	-0.021	0.001	0.019
	0.176	0.035	0.675	0.976	0.708
Theater/ cinema/c oncert	0.120(*)	0.262(**)	-0.013	-0.179(**)	0.177(**)
	0.015	0.000	0.798	0.000	0.000
Picnic kiosk	0.036	0.076	0.086	-0.019	-0.019
	0.465	0.131	0.087	0.711	0.708
Outdoor ping- pong	-0.031	0.249(**)	0.072	-0.192(**)	0.127(*)
	0.525	0.000	0.150	0.000	0.011
Outdoor chessboa rd	-0.063	-0.044	-0.027	0.087	-0.054
	0.208	0.383	0.584	0.083	0.278
Art works/ rocks	0.053	-0.364(**)	-0.084	0.334(**)	-0.215(**)
	0.277	0.000	0.086	0.000	0.000
Fountain s/ water works	0.100(*)	0.419(**)	0.045	-0.334(**)	0.242(**)
	0.040	0.000	0.364	0.000	0.000
Floricult ure/ garden works	0.005	0.190(**)	0.062	-0.155(**)	0.150(**)
	0.915	0.000	0.209	0.002	0.002

* Correlation is significant at the 0.05 level (2-tailed),

** Correlation is significant at the 0.01 level (2-tailed)

5. Conclusions

The most preferable built elements instead of flora is a place appropriate for entertainment like an amphitheater or picnic kiosk. However, there appears a balanced

preference for specific built and flora elements which specific aesthetic value which breaks the spatial monotony (such as art and water works, ethno-botanic garden or floriculture as last alternative). The promenade with life-partner or friends is generally more usual free-time behavior practice than the picnic.

The student cafeteria seems to be the most attractive place for purpose of socializing and isolation than open air places. After that, restaurant seems to be most appropriate for socialization and the lawn for isolation.

Tennis ground, theater place and water works are more attractive for female students. Archery, normal golf and art works are preferred by young students, while tennis, mini-golf, theater place, outdoor ping-pong, water and garden works are more demanded by older ones. These who live at the student dormitory within campus are indifferent or equally stimulated by any landscape management scenario as they spend most time in the dormitory or at the town, Sindos. On the contrary, the others who do not live in the campus and thus feel more like “visitors” expect a more attractive open air area with facilities like these mentioned above.

Students who live in the town Sindos, have the opposite preferences of these who live in the further city, Thessaloniki. Sindos-living students prefer archery and art works (which are not desired by these who live in Thessaloniki) while Thessaloniki-living students prefer theater place, outdoor ping-pong, water and garden works (which are not desired by these who live Sindos).

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