

SOCIAL SUSTAINABILITY OF HIGH-RISE BUILDINGS

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ABSTRACT

Nowadays, High-rise building is proposed as a dominant form in world's Major cities which its rapid growth has caused social and cultural concerns of the residents of these buildings. Social capital is remembered as a basis for economic development of any society. Its importance can be seen in the economic development of developing countries. Social capital is the invisible wealth of a country that encompasses institutions, relationships and norms that shape social interactions. In this paper, we try to achieve points in the social issues of these buildings with architectural principles and standards. For this purpose, we have been examined the relationship between the three elements of social capital, networks, confidence, partnership and architectural elements such as natural light, security, natural ventilation, visibility, space variability, physical identity, exterior solemnity, quality of entrance and lobby, quantity and quality of roadway and pedestrian access, beautiful landscaping and transfer of the annoying sounds in a number of samples. In this study we have chosen 9 high-rise building in Shiraz (one of the major cities of Iran) and to evaluate them in terms of social capital and architecture in two ways of Observation and navigation (questioning residents by Questionnaire and sampling) which Finally substantially points were achieved in the design of high-rise buildings.

Keywords: Social sustainability, Social capital, High-rise buildings.

1. INTRODUCTION

The advent of high-rise buildings in the twentieth century cities sky line is a result of increases in the price of land and technical innovations, but human invention as much as meeting the needs, is to achieve what they wish. Humans have always wanted to get into heaven and erected symbolic monument. Economic necessity of high-rise buildings due to the increases in the land's price are just one factor to accelerate the creation of a building that is throughout the history, Terms like plying the ladder and reach the peak indicates the relative heights of honor and power. Multitude of tall office buildings in the city center, not just a response to economic imperatives that also embodies the power of large corporations as well. This expression can be seen in the name that Frank Vinfield and Woolworth have denominated for Woolworth building: Cathedral of Commerce. (Kohn, 2000) Although the high-rise building is result of complex process that it's elements have interplay and number of factors, including the characteristics of the cultural, social and economic influence in it. But the principles and standards of architecture and urbanism could be established appropriate and desirable Usage of high-rise buildings. In general, according to particular circumstances of the present century Appropriate And of course contingent usage of high-rise buildings could be Considered as realistic and desirable solution to accommodate people and Provide other needs related economic and social activities in large cities. (Bemanian, 2011)

1.1. Criticism of High-Rise Buildings in Developed Countries (Pruitt-Igoe)

In 1954 in the St. Louis (USA) a high-rise residential complex called Pruitt-Igoe was designed and built by Japanese architect, Minoru Yamasaki. Groups of Black and white and full

children families settled in it, progressively many problems revealed in it as far as the number of units abandoned and finally 17 years after construction in 1972, it was decided to blast and demolish it. Many experts have explored the cause of this phenomenon that the result of one of these is: In general, high-rise residential buildings are appropriate for single people and young couples and small families and for families with many children, only under certain circumstances, such as a play space and lawn (green areas) on the roof in sufficient quantities, especially for children, is acceptable. (Aregger and Glaus, 1967) The other side, children whose living in high-rise buildings play outside the house less While the need for fresh air and social life for children means the need for playing outside of house. However, children's play area should be in adjacent or bilateral direct access for child to home or mother to child, so that Children easily have access to home security, while in the upper floors of tall buildings there are no close relationship between child and home. If the building's stories have communal terrace, these terraces and patio could have the function of playground for children. the other range of people who have a special status in high-rise buildings are elderly people, Due to their greater presence in the home than the community, they are in need of welfare and socialize, Therefore the high-rise buildings which have Appropriate communal spaces and sufficient green spaces are ideal for them, Even the maintenance and care of green spaces in floors and roofs could be laid to them. (Conway, 1977) Failed experiment of modern architecture was against flexible programming systems (Mahdavinejad *et al.*, 2013) and eco-friendly contemporary architectural design (Pourjafar *et al.*, 2014) which was explained in Pruitt-Igoe.

1.2. High-Rise Buildings in Developing Countries (Iran)

Undoubtedly, the peak years of high-rise buildings in Iran is in the seventies and nineties which have special characteristics and factors unfortunately, in most cases, regardless of environmental conditions and other issues of social, cultural, economic and etc and have been implemented just like high-rise buildings in Western countries in previous decades. (Bemania, 2011) Theoretical framework of the paper focuses on high-rise buildings in developing countries especially Iran. Community-oriented design for sustainability in architecture and planning (Mahdavinejad and Abedi, 2011) and focus on social issues (Mahdavinejad *et al.*, 2012a) is to guarantee comprehensive approach toward environmental sustainability (Mahdavinejad and Moradchelleh, 2011) and meet eco-friendly design and planning (Mahdavinejad *et al.*, 2012c). Developing countries such as Iran are in need of this comprehensive approach more than other parts of the world. (Chiesura, 2004; Mahdavinejad *et al.*, 2012b) It seems that redevelopment plans in formal documents are more eco-friendly than it is in real perspectives. (Sanoff, 2000) Literature review of the paper show that high-rise buildings in developing countries such as Iran are in need of sustainable approach (Mahdavinejad and Khazforoosh, 2014) rather than others.

1.3. Problem Statement

1.3.1. Sustainability

Sustainable design, a design that aims to answer the needs of today without damaging the resources of future generations. In the sustainable design, social and economic sustainability are important as energy consumption and environmental impact of buildings and urban areas. (Lang, 1987)

1.3.2. Social Capital

Theories of social capital, relationships and social interactions are considered the most significant component of social capital, despite the differences in structure and content, what somehow collect these different approaches entitled to Social Theory, is the Issue of social interactions and relationships within the host network. (Khavari, 2011) In table 1 a summary of conceptual scheme of social capital is represented.

Table-1. Definitions of social capital

James Coleman	Aspect of social structure that facilitates interactions of individuals within a social structure. (Coleman, 1994)
Francis Fukuyama	Set of social norms in the system that promote cooperation members in that Society. (Fukuyama, 1997)
Spellerberg	Social networks that increase the efficiency of the functioning of society. (Spellerberg, 2001)

Social capital consists of three elements of partnership, networks and confidence, which are as follows:

1.3.3. Participation

Includes the interaction of the individual - and community groups to engage in self-determination and influence decision-making processes concerning public affairs. (Mousavi, 2006)

1.3.4. Network

Social networks influence on the size and nature of social capital, the network of friends, family and neighbors up to participate in wider networks such as associations and voluntary groups are involved.

1.3.5. Confidence

Confidence is a sense each person has about that imperative which is approved. (Tavassoli, 2005) This paper examines the three elements of social capital in the sample of and evaluate it in terms of architecture, in two methods of observation and examination of inhabitants (survey, questionnaire and sampling), at the end explains the relationship between the elements of social capital with desired architectural elements.

1.4. Research Background

In the field of internal Research background, the following can be noted. 1- Bavan Puri emphasized the role of social capital in the a community sustainable development (Alley of Sajjadiye Mashhad), Master's thesis, Faculty of Sciences, Ferdowsi University of Mashhad, Supervisor BaratAli Khakpour, 1388. This paper, is based on look at asset-based, solution oriented, rather than need-based, merit-based and oriented as it is. Synergistic of social capital and community development, are based on component of this research and in Sajjadiye Alley in two cupped martyr Ahmadi and Fakhar is measured in Mashhad council Zone 5. The method is a combination of documentary studies and surveys that have been used according to need. The method used is descriptive - correlation analysis and questionnaire technique were tools to achieving the goals of research Survey. However research shows. After testing the research hypotheses based on findings obtained from the survey for the study area and according to observations researchers, it can be noted that the strengthening of social capital to achieve sustained neighborhood. However, a significant or nearly significant of some of the components of social capital can be stated that the concept of capital provided irrefutable objective of achieving sustainability, means achievement of sustainable development in the neighborhood; regardless of the humanistic and institutional potentials and benefiting from all individual and collective capacity is non-running affair. (Khavari, 2011)(Khavari, 2011)In the field of foreign background can also be referred to Onyx and Bullen (1997) emphasized that to measure social capital in five locations in New South Wales, by employing a 68-question survey began. They identified eight extensive elements in associated with social capital, That is: Participation in the local community, neighborhood connections, connections of family and friends, business connections, vitality in social context, sense of confidence and safety, tolerance of diversity and value of life. Onyx & Bullen found that in Comparison with three central region which surveyed, in all rural towns, considerably had higher levels of social capital But against the tolerance of diversity were not ranked enough high. Kontts emphasized that in his dissertation focuses on the relationship of corporate community, this study examines social capital and investment in neighbourhood within

the city of Atlanta neighbour has been through a survey method. The researchers compared the levels of corporate enterprise of the local community with neighborhoods that are lacking in the company in the 1990s. Consistent with the empirical evidence shown in this study, neighborhoods with these companies than neighborhoods without these companies Had comparable levels of investment. (Khavari, 2011).

2. METHOD

2.1. Examination: Samples (9 buildings)

In the survey method, the questionnaire has been prepared and in this questionnaire Initially questions related to the three elements of social capital and then questions were outlined about those building's architecture which could not be responsible by observation.(Due to not living in buildings)

2.2. Questionnaire

Table-1.1. Questionnaire

	Very High	High	Average	Low	Very Low
1-To what extent do people who live in your building, help you in solving your problems?					
2-To what extent do you want to attend such ceremonies, funerals, lectures and meetings in your building?					
3-To what extent are you willing to establish friendly relations with your neighbors?					
4-To what extent do you Discussed about your Daily tasks with your neighbors?					
5-to what extent Would you like to collect gifts and charitable contributions along with your neighbors?					
6-How much are you willing to visit your neighbors?					
7-To what extent do you trust your neighbors?					
8-Are you Willing to provide a sponsorship for one of your neighbors to borrow money? To what extent?					
9-Do you lend your car to one of your neighbors (for a short time like a few hours)? To what extent?					
10-To what extent are your neighbors on their promises?					
11-To what extent do your neighbors feel responsible for the maintenance of the borrowed equipment?					
12-how much do you care about solving your building problems?					
13-To what extent do you talk to your neighbors about your building problems?					
14-To what extent do you contribute to teamwork in your building?					
15-To what extent would you like to be building manager?					
16-would you like to keep the neighbors' children (sometimes)? To what extent?					
17 - To what extent do you follow the rules of your building (such as putting the waste in door of the building, maintaining the building's landscaping, and protecting buildings property)?					
18 - To what extent are you willing to make loans from Interest Free Loan box in your building?					
19 - To what extent is the transfer of disturbing sounds					

- from outside and adjacent units?
- 20 - To what extent do the units have natural light?
- 21 - How is natural ventilation in the units?
- 22 - How is the outward view from the unit?
- 23 - How much is the ability to modify the spaces in the units?
- 24 - How is the security of your building?

2.3. Samples Introduction

11 case studies in Shiraz (one of the major cities in Iran) were selected (within an upper-middle class) and 15 questionnaires were distributed in each of these Samples and 9 building were cooperated. Buildings were evaluated in 8 cases of the architectural elements (through observation and field studies) in Table 2.

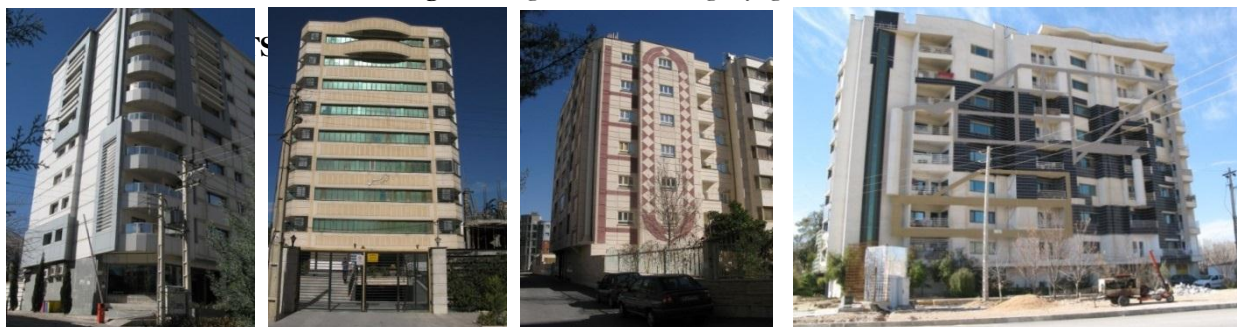
Table- 2. Samples Evaluation (9 high-rise buildings)

Buildings (Number of completed questionnaires)	Physical identity and Exterior Awe (1-5)	Entry Quality, Entrance and lobby (1-5)	Common areas: 1 - auditorium 2 - the pool 4 - gym	Beautiful landscaping (1-5)	Playground for children	Building Services: 1 - Security 2 - Taxi	Communal space: 1 - Parking 2 - Storage 3 - Mechanical	Quantity and quality of the cavalry and infantry Access (1-5)
BTM (12)	4	5	1	5	1	0-1	0-2-1	2
Derak (8)	3	4	1	2	1	0-1	0-2-1	3
Fardad (10)	4	3	1	3	1	0-1	0-2-1	3
Moalemin (2)	4	3	1	2	-	0-1	1-2-3	5
Pasargad (11)	4	3	1	3	-	0-1	1-2-3	5
Bagro (6)	4	2	1	4	1	0-1	0-2-1	4
Tandis (6)	4	4	-	3	1	0-1	1-2-3	2
Shaghayegh (11)	3	2	1	2	1	0-1	0-2-1	2
Shahed (11)	5	5	1-2-3	5	1	0-1	0-2-1	5

Fig-1.5. BTM, Derak, Fardad, Moalemin, Pasargad



Fig-6.9. Bagro, Tandis, Shaghayegh, Shahed



Each building's questionnaire was evaluated and then the average and statistics of questions recorded by Microsoft Excel software and the overall average of all the buildings through SPSS software and the results of statistical operations of CORRELATION / PARTIAL is obtained as follows:

Table-3. Output data from the SPSS software (by 28 items) correlations

Control Variables	Q1	Q2	Q3	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	
Q15 Q1 & Q4	Correlation	1.000	.733	.611	.641	.541	.967	.181	-.408	.819	.706	.579	.565	.659	.681	.465	-.125	.075	.763	.488	-.030	.137	.641	-.011	.004	-.174	-.113
	Significance (2-tailed)		.061	.145	.121	.210	.000	.697	.363	.024	.076	.173	.186	.108	.092	.293	.789	.872	.046	.267	.950	.770	.121	.981	.993	.710	.809
	df	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q2	Correlation	.733	1.000	.609	.547	.704	.790	.223	.043	.785	.799	.891	.786	.827	.859	.753	.229	.687	.804	.831	-.150	.095	.704	.190	.080	.072	-.105
	Significance (2-tailed)	.061		.146	.204	.077	.034	.630	.927	.037	.031	.007	.036	.022	.013	.051	.622	.088	.029	.020	.748	.840	.077	.683	.865	.877	.824
	df	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q3	Correlation	.611	.609	1.000	.556	.314	.509	-.346	-.124	.822	.629	.590	.080	.213	.580	.760	.343	.386	.769	.556	.272	.550	.504	.532	.535	.280	.310
	Significance (2-tailed)	.145	.146		.195	.493	.243	.447	.791	.023	.131	.163	.865	.646	.173	.047	.451	.392	.043	.195	.555	.201	.249	.219	.216	.543	.499
	df	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q5	Correlation	.641	.547	.556	1.000	.388	.551	.387	.248	.851	.374	.321	.131	.482	.425	.770	.413	.261	.488	.601	.453	.667	.749	-.387	.000	-.534	-.322
	Significance (2-tailed)	.121	.204	.195		.389	.199	.391	.591	.015	.409	.482	.780	.274	.342	.043	.357	.572	.267	.154	.308	.101	.053	.392	.999	.217	.481
	df	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q6	Correlation	.541	.704	.314	.388	1.000	.594	.403	.140	.415	.338	.751	.556	.848	.289	.567	.494	.231	.613	.328	-.376	-.302	.659	-.078	-.015	-.262	-.390
	Significance (2-tailed)	.210	.077	.493	.389		.160	.371	.765	.355	.458	.052	.195	.016	.529	.185	.260	.618	.143	.473	.405	.510	.107	.869	.975	.570	.387
	df	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q7	Correlation	.967	.790	.509	.551	.594	1.000	.170	-.320	.732	.666	.593	.686	.712	.694	.409	-.150	.165	.684	.477	-.247	.017	.545	-.024	.042	-.091	-.249
	Significance (2-tailed)	.000	.034	.243	.199	.160		.715	.484	.061	.103	.160	.089	.073	.084	.362	.748	.724	.090	.279	.594	.971	.205	.959	.930	.847	.591
	df	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q8	Correlation	.181	.223	-.346	.387	.403	.170	1.000	.124	.161	.152	.227	.431	.669	.128	.179	.083	.003	.162	.306	.202	-.198	.628	-.709	-.847	-.834	-.330
	Significance (2-tailed)	.697	.630	.447	.391	.371	.715		.791	.731	.744	.624	.334	.101	.785	.702	.860	.995	.729	.504	.665	.671	.131	.074	.016	.020	.470
	df	5	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q9	Correlation	-.408	.043	-.124	.248	.140	-.320	.124	1.000	-.080	-.433	-.106	-.206	-.003	-.241	.370	.738	.480	-.358	.133	-.039	.320	-.022	-.334	.253	-.146	-.570
	Significance (2-tailed)	.363	.927	.791	.591	.765	.484	.791		.864	.331	.822	.658	.995	.602	.414	.058	.276	.430	.777	.934	.484	.962	.464	.584	.754	.181
	df	5	5	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q10	Correlation	.819	.785	.822	.851	.415	.732	.161	-.080	1.000	.770	.639	.383	.557	.777	.825	.220	.438	.814	.798	.377	.568	.790	.083	.102	-.141	.058
	Significance (2-tailed)	.024	.037	.023	.015	.355	.061	.731	.864		.043	.123	.396	.194	.040	.022	.635	.326	.026	.031	.404	.183	.034	.859	.828	.762	.902
	df	5	5	5	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q11	Correlation	.706	.799	.629	.374	.338	.666	.152	-.433	.770	1.000	.817	.709	.616	.950	.547	-.159	.497	.892	.819	.193	.111	.674	.408	-.149	.162	.437
	Significance (2-tailed)	.076	.031	.131	.409	.458	.103	.744	.331	.043		.025	.075	.141	.001	.204	.734	.256	.007	.024	.678	.813	.097	.364	.750	.729	.327
	df	5	5	5	5	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q12	Correlation	.579	.891	.590	.321	.751	.593	.227	-.106	.639	.817	1.000	.729	.802	.754	.704	.285	.591	.900	.736	-.095	-.124	.742	.393	-.027	.122	.187
	Significance (2-tailed)	.173	.007	.163	.482	.052	.160	.624	.822	.123	.025		.063	.030	.050	.077	.535	.162	.006	.059	.839	.791	.056	.383	.955	.794	.688
	df	5	5	5	5	5	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Q13	Correlation	.565	.786	.080	.131	.556	.686	.431	-.206	.383	.709	.729	1.000	.839	.758	.245	-.240	.463	.560	.605	-.379	-.397	.475	.045	-.350	.026	-.094
	Significance (2-tailed)	.186	.036	.865	.780	.195	.089	.334	.658	.396	.075	.063		.018	.048	.596	.605	.295	.191	.150	.401	.378	.281	.924	.441	.955	.842
	df	5	5	5	5	5	5	5	5	5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Q14	Correlation	.659 .827 .213 .482 .848 .712 .669 -.003 .557 .616 .802 .839 1.000 .607 .543 .180 .366 .686 .618 -.189 -.251 .802 -.204 -.379 -.369 -.287
	Significance (2-tailed)	.108 .022 .646 .274 .016 .073 .101 .995 .194 .141 .030 .018 .148 .208 .699 .419 .089 .139 .685 .588 .030 .661 .402 .415 .532
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q16	Correlation	.681 .859 .580 .425 .289 .694 .128 -.241 .777 .950 .754 .758 .607 1.000 .567 -.151 .659 .768 .891 .106 .209 .586 .325 -.062 .211 .257
	Significance (2-tailed)	.092 .013 .173 .342 .529 .084 .785 .602 .040 .001 .050 .048 .148 .184 .746 .107 .044 .007 .822 .653 .167 .477 .895 .650 .578
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q17	Correlation	.465 .753 .760 .770 .567 .409 .179 .370 .825 .547 .704 .245 .543 .567 1.000 .698 .663 .704 .791 .325 .535 .782 .122 .222 -.111 -.031
	Significance (2-tailed)	.293 .051 .047 .043 .185 .362 .702 .414 .022 .204 .077 .596 .208 .184 .081 .104 .077 .034 .476 .216 .038 .794 .633 .813 .948
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q18	Correlation	-.125 .229 .343 .413 .494 -.150 .083 .738 .220 -.159 .285 -.240 .180 -.151 .698 1.000 .377 .159 .213 .127 .317 .371 -.040 .346 -.176 -.272
	Significance (2-tailed)	.789 .622 .451 .357 .260 .748 .860 .058 .635 .734 .535 .605 .699 .746 .081 .404 .733 .647 .785 .489 .413 .933 .447 .706 .555
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q19	Correlation	.075 .687 .386 .261 .231 .165 .003 .480 .438 .497 .591 .463 .366 .659 .663 .377 1.000 .359 .816 .008 .303 .317 .323 .216 .361 .047
	Significance (2-tailed)	.872 .088 .392 .572 .618 .724 .995 .276 .326 .256 .162 .295 .419 .107 .104 .404 .430 .025 .987 .509 .489 .480 .641 .426 .921
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q20	Correlation	.763 .804 .769 .488 .613 .684 .162 -.358 .814 .892 .900 .560 .686 .768 .704 .159 .359 1.000 .698 .172 .089 .815 .384 -.024 .021 .335
	Significance (2-tailed)	.046 .029 .043 .267 .143 .090 .729 .430 .026 .007 .006 .191 .089 .044 .077 .733 .430 .081 .713 .850 .025 .395 .959 .964 .463
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q21	Correlation	.488 .831 .556 .601 .328 .477 .306 .133 .798 .819 .736 .605 .618 .891 .791 .213 .816 .698 1.000 .326 .404 .726 .156 -.107 .009 .158
	Significance (2-tailed)	.267 .020 .195 .154 .473 .279 .504 .777 .031 .024 .059 .150 .139 .007 .034 .647 .025 .081 .476 .368 .065 .739 .819 .985 .736
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q22	Correlation	-.030 -.150 .272 .453 -.376 -.247 .202 -.039 .377 .193 -.095 -.379 -.189 .106 .325 .127 .008 .172 .326 1.000 .679 .391 -.094 -.270 -.352 .461
	Significance (2-tailed)	.950 .748 .555 .308 .405 .594 .665 .934 .404 .678 .839 .401 .685 .822 .476 .785 .987 .713 .476 .093 .386 .842 .558 .439 .298
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q23	Correlation	.137 .095 .550 .667 -.302 .017 -.198 .320 .568 .111 -.124 .397 -.251 .209 .535 .317 .303 .089 .404 .679 1.000 .199 -.032 .364 -.055 .055
	Significance (2-tailed)	.770 .840 .201 .101 .510 .971 .671 .484 .183 .813 .791 .378 .588 .653 .216 .489 .509 .850 .368 .093 .668 .945 .422 .908 .907
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q24	Correlation	.641 .704 .504 .749 .659 .545 .628 -.022 .790 .674 .742 .475 .802 .586 .782 .371 .317 .815 .726 .391 .199 1.000 .150 -.352 -.503 .015
	Significance (2-tailed)	.121 .077 .249 .053 .107 .205 .131 .962 .034 .097 .056 .281 .030 .167 .038 .413 .489 .025 .065 .386 .668 .748 .438 .250 .975
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q25	Correlation	-.011 .190 .532 -.387 -.078 -.024 -.709 -.334 .083 .408 .393 .045 -.204 .325 .122 -.040 .323 .384 .156 -.094 -.032 -.150 1.000 .517 .875 .726
	Significance (2-tailed)	.981 .683 .219 .392 .869 .959 .074 .464 .859 .364 .383 .924 .661 .477 .794 .933 .480 .395 .739 .842 .945 .748 .234 .010 .065
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q26	Correlation	.004 .080 .535 .000 -.015 .042 -.847 .253 .102 -.149 -.027 -.350 -.379 -.062 .222 .346 .216 -.024 -.107 -.270 .364 -.352 .517 1.000 .640 -.052
	Significance (2-tailed)	.993 .865 .216 .999 .975 .930 .016 .584 .828 .750 .955 .441 .402 .895 .633 .447 .641 .959 .819 .558 .422 .438 .234 .121 .912
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q27	Correlation	-.174 .072 .280 -.534 -.262 -.091 -.834 -.146 -.141 .162 .122 .026 -.369 .211 -.111 -.176 .361 .021 .009 -.352 -.055 -.503 .875 .640 1.000 .459
	Significance (2-tailed)	.710 .877 .543 .217 .570 .847 .020 .754 .762 .729 .794 .955 .415 .650 .813 .706 .426 .964 .985 .439 .908 .250 .010 .121 .300
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5
Q28	Correlation	-.113 -.105 .310 -.322 -.390 -.249 -.330 -.570 .058 .437 .187 -.094 -.287 .257 -.031 -.272 .047 .335 .158 .461 .055 .015 .726 -.052 .459 1.000
	Significance (2-tailed)	.809 .824 .499 .481 .387 .591 .470 .181 .902 .327 .688 .842 .532 .578 .948 .555 .921 .463 .736 .298 .907 .975 .065 .912 .300
	df	5 5 5 5 5 5 5 5 5 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5

3.2. Exam B

In this exam questions of social field are summarized in three categories of network, confidence and partnership to achieve a more general conclusions.

$$Q'1=Q1-Q6$$

$$Q'2=Q7-Q11$$

$$Q'3=Q19-Q24$$

Table-4. Output data of the SPSS software (13 items) correlations

Control Variables		Q'1	Q'2	Q'3	Q'5	Q'6	Q'7	Q'8	Q'9	Q'10	Q'11	Q'12	Q'13	
Q'4	Q'1	Correlation	1.000	.949	.685	.788	.577	.453	.219	.520	-.145	.341	.009	.015
		Significance (2-tailed)		.000	.061	.020	.135	.259	.603	.186	.733	.408	.983	.973
		df	0	6	6	6	6	6	6	6	6	6	6	6
Q'2	Q'2	Correlation	.949	1.000	.763	.775	.624	.520	.181	.540	-.225	.085	-.028	.030
		Significance (2-tailed)	.000		.028	.024	.098	.186	.668	.167	.592	.842	.947	.943
		df	6	0	6	6	6	6	6	6	6	6	6	6
Q'3	Q'3	Correlation	.685	.763	1.000	.666	.225	.314	-.002	.481	-.116	-.130	.043	-.186
		Significance (2-tailed)	.061	.028		.071	.592	.449	.997	.227	.785	.758	.919	.659
		df	6	6	0	6	6	6	6	6	6	6	6	6
Q'5	Q'5	Correlation	.788	.775	.666	1.000	.731	.310	-.016	.732	.255	.115	-.016	.415
		Significance (2-tailed)	.020	.024	.071		.039	.455	.969	.039	.541	.787	.971	.307
		df	6	6	6	0	6	6	6	6	6	6	6	6
Q'6	Q'6	Correlation	.577	.624	.225	.731	1.000	.320	.102	.815	-.132	-.166	-.484	.398
		Significance (2-tailed)	.135	.098	.592	.039		.440	.811	.014	.755	.694	.224	.329
		df	6	6	6	6	0	6	6	6	6	6	6	6
Q'7	Q'7	Correlation	.453	.520	.314	.310	.320	1.000	.670	.231	-.132	-.013	.034	.319
		Significance (2-tailed)	.259	.186	.449	.455	.440		.069	.582	.755	.975	.937	.441
		df	6	6	6	6	6	0	6	6	6	6	6	6
Q'8	Q'8	Correlation	.219	.181	-.002	-.016	.102	.670	1.000	.030	-.162	.281	-.021	-.038
		Significance (2-tailed)	.603	.668	.997	.969	.811	.069		.944	.701	.500	.960	.928
		df	6	6	6	6	6	6	0	6	6	6	6	6
Q'9	Q'9	Correlation	.520	.540	.481	.732	.815	.231	.030	1.000	-.248	-.333	-.680	.113
		Significance (2-tailed)	.186	.167	.227	.039	.014	.582	.944		.554	.421	.063	.790
		df	6	6	6	6	6	6	6	0	6	6	6	6
Q'10	Q'10	Correlation	-.145	-.225	-.116	.255	-.132	-.132	-.162	-.248	1.000	.418	.697	.699
		Significance (2-tailed)	.733	.592	.785	.541	.755	.755	.701	.554		.302	.055	.054
		df	6	6	6	6	6	6	6	6	0	6	6	6
Q'11	Q'11	Correlation	.341	.085	-.130	.115	-.166	-.013	.281	-.333	.418	1.000	.561	.080
		Significance (2-tailed)	.408	.842	.758	.787	.694	.975	.500	.421	.302		.148	.851
		df	6	6	6	6	6	6	6	6	6	0	6	6
Q'12	Q'12	Correlation	.009	-.028	.043	-.016	-.484	.034	-.021	-.680	.697	.561	1.000	.300
		Significance (2-tailed)	.983	.947	.919	.971	.224	.937	.960	.063	.055	.148		.470
		df	6	6	6	6	6	6	6	6	6	6	0	6
Q'13	Q'13	Correlation	.015	.030	-.186	.415	.398	.319	-.038	.113	.699	.080	.300	1.000
		Significance (2-tailed)	.973	.943	.659	.307	.329	.441	.928	.790	.054	.851	.470	
		df	6	6	6	6	6	6	6	6	6	6	6	0

4. DISCUSSION

4.1. Exam A

Q11-Q20 0.892: When the Units have more light, Residents have been more responsible than their neighbors.

Q12-Q20 0.9: When the Units have more light, Tend to solve problems is more common among the inhabitants of the building.

Q13-Q22 -0.379: In Buildings which units have wider outward view, Residents have been more inclined to talk to neighbors about construction problems.

Q22-Q27 -0.352: In Buildings which units have better outward view, frequently there is less green spaces.

Q16-Q21 0.891: In Buildings which units have better natural ventilation, Contribution to keep the neighbors' children are more.

Q19-Q21 0.816: In Buildings which units have better natural ventilation, Disturbing sounds of the outside and adjacent units are more.

Q13-Q26 -0.350: Buildings that have better quality of entry and lobbies, Neighbors speak less about the buildings problems with each other.

Q24-Q26 -0.352: Buildings that have better quality in entries and lobbies, building security is less effective.

Q24-Q27 -0.503: Buildings that are more secure, they have less beautiful landscaping.

Q8-Q27 -0.834: In Buildings that have been more and beautiful green space, Inhabitants trust less on each other.

Q25-Q27 0.875: Buildings that have prettier and greener space, also had a better exterior solemnity and somatogenic identity.

Q8-Q28 -0.330: In Buildings with better access to Roadway and pedestrian way, Inhabitants trust less on each other.

Q5-Q28 -0.322: In Buildings with better access to Roadway and pedestrian way, Social network and helping neighbors are less effective in them.

Q8-Q25 -0.709: Buildings that have a better exterior solemnity and somatogenic identity, Inhabitants trust (sponsorship) is lower in them.

Q13-Q23 -0.397: In Buildings that have more variability, Inhabitants speak less with neighbors about buildings problems.

4.2. Exam B

In the Exam B Items of networks, confidence and partnership are identical, which have direct relation with natural light, security, natural ventilation, visibility and space variability and are inversely related to the physical identity, exterior solemnity, quality of entrance and lobby, quantity and quality of roadway and pedestrian access, beautiful landscaping and transfer of the annoying sounds.

5. CONCLUSIONS

According to the survey, the following results were achieved:

1-In buildings with better physical identity and solemnity exterior, green landscape and good quality in lobby and entrance, security is felt less, this indicates that pay attention to building's appearance is not merely enough and in building design, in addition to beauty, security must also be considered.

2-The inappropriate quantity and quality of the roadway and pedestrian access show that the building was away from the main street and social participation seen more in it, So in the layout of buildings, Auxiliary road, is more appropriate.

3-In that building that each unit is flexible (the ability to customize the space to inhabitants), Neighbors Participation in the building problems are rarely seen, Thus, designing each unit with detail and flexible manner, to increase social participation among inhabitants must be considered.

4-In the buildings that have better quality of entries and lobby space, Neighbors Participation in the building problems are rarely seen, So if the quality of the entrance and lobby area designed to be good and somehow flexible and allow inhabitants to provide the desired change, Lead to further participation in the building affairs by its neighbors.

5-In the buildings that are wider outside view, beautiful landscape spaces are less observed, these two factors have acted individually, Therefore the view to the beautiful landscape spaces in buildings should be provided so the visually feature would be more efficient to use.

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