Social Sustainabilityof High-rise Buildings

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Abstract

Nowadays, High-rise buildings has been 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 has 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 9 high-rise buildings has been chosen 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
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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 Vinfild 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,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 & Donald ,1977).

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. (Bemanian, 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 & Abedi, 2011) and focus on social issues (Mahdavinejad ,2012). is to guarantee comprehensive approach toward environmental sustainability (Mahdavinejad , 2011) and meet eco-friendly design and planning (Mahdavinejad , 2012). Developing countries such as Iran are in need of this comprehensive approach more than other parts of the world. [17, 18] It seems that redevelopment plans in formal documents are more eco-friendly than it is in real perspectives. (Sanoff , 2000).

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. [(Sanoff , 2000)]

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, AR. 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.

In the field of foreign background can also be referred to:

1- Onyx & Bullen (1997): 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.

2- Kontts: In his dissertation focuses on the relationship of corporate community, this study examines social capital and investment in neighborhoods within the city of Atlanta neighbors 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.

2. Method

2.1.Examination: Samples (9 buildings)

In the survey method, the questionnaire has been prepared and in these 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 respond by observation.(Due to not living in buildings)

2.2.Questionnaire

1-To what extent do people who live in your building, help you in solving your problems?	Very High	High	Average	Low	Very Low
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 BTM, Derak, Fardad, Moalemin, Pasargad

Fig. 2 Bagro, Tandis, Shaghayegh, Shahed

3. Results

3.1. Exam A

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 & Q4	Q1	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	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	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	5	5	0	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	5	5	5	0	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	5	5	5	5	0	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	5	5	5	5	5	0	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	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	5	5	5	5	5	0	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	5	5	5	5	5	5	5	5	5	5	5	5	5	0

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-Q2

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	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	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	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	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	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	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	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	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	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	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	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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