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Investigation the Impact of Social Capital on Citizen's Willingness for Participation in Tehran Forest Parks

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Abstract: Social Capital is an essential and undeniable principle in all of the urban affairs. Therefore, the main objective of this descriptive- survey research was to investigate impact of social capital on citizen's willingness for participation in the executive affairs and management in Tehran forest parks. The statistical population of the study consisted of the most famous and popular Tehran forest parks, out of which a sample of 205 visitors was selected using Cochran Formula and simple random sampling method. A questionnaire was used as the main tool of study. Results of ANOVA showed that willingness for participation in the executive affairs and managerial activities of forest parks were significantly different among citizens with different levels of social capital. In addition, citizen with high level of social capital placed high values for people participation in forest park management and they were significantly different from the citizens with low level of social capital in terms of willingness to participation.

Key words: Social capital · Citizens · Forest parks · Participation · Tehran

INTRODUCTION

The conceptual exploration of social capital began in the latter part of the twentieth century. According to Coleman [1], "human capital is created by changes in persons that bring about skills and capabilities that make them able to act in new ways." He then goes on to argue: "social capital comes about through changes in relations among persons that facilitate action." Hence, social capital is regarded as something that promotes activities in a society [2]. It is described as "capital" because it can be accumulated over time and then drawn on in the future for use in achieving certain goals. Social capital is a collective resource rather than one accruing to an individual [3].

The role of "social capital" in facilitating collective action for natural resource management has received considerable attention in the past decade [4-7]. Based on these researches, social capital is the social resource that is embodied in the relations between people.

Social capital generally encompasses dimensions such as trust, social participation, informal and formal networks, civic engagement and voluntary activities. Social capital typically refers to the resources or support stocks available within communities that emerge from interactions between neighbors and group members [8]. So one of the structural component and important aspects of social capital is participation that emphasis on the ability of individuals to participate in social groups outside of the family. In a democratic system many civil society groups will reflect the norms of the regime in their internal organization and practices, thus participation in these groups may generate democratic norms and skills.

Diamond [9] provides an extensive description of the role that civil society participation plays in the development of democratic citizenship and the development of a democratic polity [9]. Participation in social groups independent of the state is seen as developing the interpersonal skills and resources that benefit democratic participation, encouraging a tolerance and trust in others, broadening world perspectives, and providing practice in deliberation and decision making. These citizen-building benefits are often described as creating "social capital" among the citizenry that supports democratic politics.

The social capital formed by participation in associations both develops a nation politically as well as improving the life conditions of its citizens [10].

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Participation in civil society groups teaches individuals the skills to engage in collective decision making with their fellow citizens. Furthermore, by making decisions about group activities and group goals, this inculcates a belief in participating in the decisions affecting one's life. Therefore citizens' participation is the essential and undeniable principle in all of the urban affairs. In the recent years, this principle has been discussed in urban forestry and green space and is a main infrastructure for success in related projects.

Urban forestry is one of the dimensions of community forestry and the people are main core for participation in managerial and executive affairs. Generally, the goal of urban forestry is to plant trees in the different places such as forest parks, Green belts, public places and the streets of city [11] that executive capacity will be more by people's participation that people's participation increase implementation capacity of urban forestry projects.

For improving quality of projects related with urban forestry, participation should be involved in overall project stages that it needs to motivate people and investment by government.

By contributing to a local group in urban forestry, the social capital for the community as a whole can benefit, while the individual will continue to gain trust in others, develop networks and relationships with other members and participants, which may contribute to a higher level of life satisfaction. Thus, it is necessary to understanding influence of social capital on people participation in urban forestry affaires.

In the study of Tretheway etal's (2005) was indicated that people which had less than 56 years old and had an adequate income were the most willingness for participating in voluntary`s urban forest program [12].

Oral's research (2008) showed that there is positive and significant correlation between use of internet and willingness for participation [13].

The results of Carver's research (2000) revealed that education level and use of Internet were significantly correlated with the people's participation in the management of urban green space [14].

Luzar and Diagne (1999) studied about correlation between participation and attitude toward environment. Results showed that attitude toward environment and participation has a positive and significant correlation [15]. Also singer (2003) showed individuals with positive attitude toward participation, had the most participatory activities [17].

In the study of Sanesia and Chiarello (2006) was indicated that 89.2% of respondents have willingness for participation in the management of urban forests [16].

Agostino (2006) was done a survey research and statistical analysis, that case had an impact on social capital when analyzing the two main components of social capital, trust and networks [17].

Putnam, 1995, Uslaner, 1997, Brehm and Rahn, 1997 showed People who trust others are more likely to participate in almost all of these activities, so the decline in trust is strongly linked to the fall in civic participation [18,6,3].

Putnam (1996) shows a strong relationship between civic engagements and social trust and other demographic variables [5].

Uslaner (1998) showed People who attend religious services are more likely to take an active role in participation. Social ties clearly promote civic participation. Also he showed Especially College education leads to more participation [19].

Landry et al's study (2000) was about social capital. In this study social capital was measured by participation and trust in a 6 statement spectrum. Base on the results participation and social capital had significant correlation [20].

Albritton (2002) via F-Test showed that Not only is the indicator of participation in civil society organizations associated with the overall level of social capital and trust in officials in social and political institutions, such participation is associated with positive levels of trust [21].

Newton (1999), pointed out that social trust is positively related to social participation.

Also Newton and Norris (2000) found some indication that a weak positive relationship exists between social trust and social participation [22].

Benchmark Survey in California conducted in Los Angeles about Social Capital Community. Results showed that 36 percent say that people can be trusted; 55 percent say you can't be too careful; and 9 percent say that it depends. Forty-seven percent of Angelenos reported having voted in the 1996 presidential election, with 8 percent saying they were ineligible to vote. This is a lower rate of participation in voting than is reported in the national sample, in which 65 percent say they voted and 6 percent say they were ineligible [23]. Cramb study`s (2006) results indicate that social capital first rises then falls with age and increase with years of formal education [24].

-Knowledge about public affairs
Trust-
Participation → Social capital → Voluntary participation
- Formal participation

Fig. 1: Framework for the relation between Social Capital and participation

In looking through this survey, most had questions dealing with social participation and engagement. The most common questions were those dealing with the type of participation and level of social capital within citizens who visited Tehran forest parks. Figure 1 shows the relation between participation and social capital. For the Measurement of Social Capital, Knowledge, trust and participation are the most important indicators that were used in this study.

This study was done with regards to this point that people participation is one of the important problems in Iran and social capital is a key indicator in increasing level of participation. So this study was done to investigate influencing of social capital on citizens' participation in forest parks in Tehran city.

Other Objectives in this Study Were:

- Analysis of characteristics of visitors of forest parks
- Descriptive statistics of social capital such as trust, social and political knowledge and participation
- Correlation analysis between citizens' willingness for participation in the executive activities and management of forest parks with some selected variables
- Comparison of citizen's willingness for participation in the executive and management activities of forest parks base on the selected variables
- Variance Analysis of citizen`s willingness for participation in executive forest parks activities

MATERIAL AND METHODS

The objective of this descriptive- survey research was to investigate impact of social capital on citizen's willingness for participation in the executive affairs and management in forest parks in Tehran city. The statistical population of this study consisted of the visitors of four major Tehran forest parks i.e. Chitgar, Lavizan, Taleghani and Sorkhehesar, out of which 172 visitors were selected as sample, using Cochran Formula and simple random sampling method(for more accuracy 205 visitors were selected).

$$n = \frac{N(t \cdot S)^2}{Nd^2 + (t \cdot S)^2} = \frac{250000(1/96 \times 8)^2}{250000(1/195)^2 + (1/96 \times 8)^2} \cong 172$$

A well structured and pre- tested questionnaire was the main tool of study that was developed on the basis of the literature review. This questionnaire contained six parts: demographic characteristics (9 variables), citizens' willingness for participation in executive activities in forest parks (14 variables), citizens' willingness for participation in the management of forest parks (7 variables), attitude towards public participation in administration and conservation of forest parks (8 variables), extent of application of information sources by the visitors (6 variables) and social capital (19 variable). These questionnaires were completed in a 3 month period by the visitors who came to forest parks and facilitators were interview with them, also if citizens had question, they responded to it. For determining validity of the questionnaire, content validity was used by an experts' panel judgment. Cronbach's alpha was used to measure reliability of research scales and identification of irrelevant statements which ranged from 0.86 to 0.93 indicating that the tool of study is reliable. The data were analyzed by SPSS-win software and descriptive and inferential statistics such as: Percentages, Frequencies, Mean scores, Correlation coefficients (Pearson and Spearman), "F" Test, Kruskal- Wallis test and Analysis of Variance.

RESULTS

Characteristics of the Visitors of Forest Parks: According to the results, 62.4% of the visitors were male and 37.6% were female. The average age of the visitors was about 31 years. About 26% of the visitors had completed high school and 55.6% were Bachelor of Science. The largest proportion of the visitors had governmental jobs or student in university and 4% were retired. 25.8% of the visitors come to forest parks at least once in a week and 17% of the visitors come to forest parks just once in a month. Findings revealed that the mean of user`s income was about 8710000 Iranian Rials. Moreover, 10 percent of citizens had at least one experience of voluntary participation in forest park's activities and 33.7 percent had willingness to participate in executive or managerial activities in forest parks (between 1-7 days in week).

Table 1: Frequency distribution based on social capital`s level

Level of citizen`s social capital	percent	frequency
Low level (less than 31.9 score)	20	41
Medium (between 31.9 – 57.72)	54.6	112
High level (more than 57.72 score)	25.4	52
Total	100	205

Part 1: Descriptive Statistics of Social Capital: For citizen`s social capital evaluation, a scale containing of 19 statements at 6 levels was used (least to very high) so that the respondents could gain scores ranged from0 to 114 score. The respondents were later categorized into three classes as indicated in Table. Accordingly, majority of the respondents had medium level of social capital followed by high and low levels.

Knowledge about Public, Political and Social Affairs: As exhibited in Table (2), citizen`s Knowledge about the duty of Tehran mayor was at the first priority, while their knowledge about City Council was at the lowest priority level.

Trust: The result of trust`s component of social capital scale is shown in Table (3). Based on these results, trust indicator was high in case of "Be on time in your appointments" and "Rely on coworkers and friends". It is while their trust was low in relying on public institution and groups which they were members of them.

Participation: based on Table (4), voluntary citizen`s participation was high in the cases of "helping to the family, friends and co-workers" and "Consulting to the family, friends and cooperators in encounter to problems". It is while their willingness was low in the cases of "borrowing money from others". Table (5) represents that people participate in formal participation especially in election and religious services but their participation in cooperation with formal society and organizations was low.

Part 2: Social capital and Participation

Correlation Analysis Between Citizens' Willingness for Participation in the Executive Activities and Management of Forest Parks with Some Selected Variables: Table (6) and (7), reveals positive and significant correlation between knowledge about public, political and social affairs, trust, informal participation, formal participation and total score of social capital with citizens' willingness for participation in the executive activities and management of forest parks. Also as evinced in Table (6) and (7), age was negatively and significantly correlated with citizens' willingness for participation in the executive activities and management of forest parks ($p<0.01$), while the data reveals positive and significant correlation between income, extent of visitors' use of forest parks, extent of visitors' application of information sources, attitude towards public participation in

Table 2: Knowledge about public, political and social affairs

Statement	Ever	Very low	low	average	high	Very high	Mean	Standard Deviation	Priority
Knowledge about Tehran mayor`s duties	23.4	10.9	16.8	27.2	16.8	4.9	2.179	1.55	1
Knowledge about how to select the mayor	24.5	13.6	17.4	25.5	10.9	8.2	2.092	1.59	2
Knowledge about Tehran City Council	27.7	17.4	21.7	19	5.4	8.7	1.831	1.56	3

Table 3: Trust

Statement	Ever	Very low	low	average	high	Very high	Mean	Standard Deviation	Priority
Be on time in your appointments	1	1.6	3.2	20.4	34.4	38.7	4.005	1.06	1
Rely on coworkers and friends	5.9	11.4	9.2	45.4	22.2	5.9	2.843	1.23	2
Rely on public institution	24.3	22.2	13	27	10.3	3.2	1.846	1.47	3
Rely on public institution that you are in relation with them	24.6	18.4	10.6	34.6	8.4	3.4	1.938	1.46	4
Rely on groups that you are member of them	17.2	14.4	13.8	37.9	11.5	5.2	2.275	1.44	5

Table 4: Voluntary participation

Statement	Ever	Very low	Low	Average	High	Very high	Mean	Standard Deviation	Priority
Helping to the family, friends and coworkers	0.5	4.9	9.2	28.8	32.1	24.5	3.603	1.13	1
Consulting to the family, friends and coworkers in encountering to problems	3.4	6.2	9.7	22.7	31.8	36.1	3.517	1.32	2
Willingness to gain information about job	5.4	5.4	10.8	31.7	32.8	14	3.231	1.28	3
lending money to others	5.9	12.4	5.4	28	29	19.4	3.198	1.45	4
exchanging information about job with others	8	5.7	14.2	35.2	19.9	17	3.045	1.4	5
Attendance in professional meetings	11.1	3.9	12.8	30.6	27.2	14.4	3.022	1.46	6
Visiting members of club, union or confederation	12.1	10.4	23.7	26.6	13.9	13.3	2.595	1.50	7
borrowing money from others	16	25.1	11.8	25.1	11.8	10.2	2.219	1.57	8

Table 5: Formal participation

Statement	Ever	Very low	Low	Average	High	Very high	Mean	Standard Deviation	Priority
Attendance in country's election	16.5	12.6	7.1	21.4	19.2	23.1	2.835	1.77	1
Attendance in part and religious ceremonies	24.2	14.8	9.3	26.9	13.2	11.5	2.247	1.70	2
Cooperation with formal society and organizations	26.4	13.5	18.5	23	11.2	7.3	2.011	1.59	3

Table 6: Correlation analysis between citizens' willingness for participation in the management of forest parks with some selected variables

Variable	R	Sig
Knowledge about public, politic and social affairs	0.258**	0.000
Trust	*0.160	0.022
Informal participation	0.247**	0.000
Formal participation	*0.180	0.010
Social capital (total)	0.261**	0.000
Age	**-0.240	0.001
Income	*0.161	0.021
Extent of visitors' use of forest parks	**0.189	0.000
Extent of visitors' application of information sources	**0.220	0.001
Attitude towards public participation in administration and conservation of forest parks	**0.243	0.001
Level of social capital	0.179*	0.010
Importance of environmental issues	0.205**	0.001

*: p<0.05 and **: p<0.01

Table 7: Correlation analysis between citizens' willingness for participation in the executive activities in forest parks with some selected variables

Variable	R	Sig
Knowledge about public, politic and social affairs	*0.154	0.028
Trust	*0.139	0.046
Informal participation	*0.159	0.023
Formal participation	*0.141	0.043
Social capital (total)	*0.179	0.010
Age	**-0.240	0.001
Income	*0.161	0.021
Extent of visitors' use of forest parks	**0.189	0.000
Extent of visitors' application of information sources	**0.220	0.001
Attitude towards public participation in administration and conservation of forest parks	**0.243	0.001
Level of social capital	0.179*	0.010
Importance of environmental issues	0.205**	0.001

*: p<0.05 and **: p<0.01

administration and conservation of forest parks, level of social capital and importance of environmental issues with citizens' willingness for participation in the executive activities and management of forest parks at 0/001 AND 0/005 levels.

Comparison of Citizen's Willingness for Participation in the Executive and Management Activities of Forest Parks Base on the Selected Variables: The results of Kruskal- Wallis test showed significant difference among citizens with various levels of education and importance of environmental issues for users at 0.05 and 0.01 levels. Users having a certificate of Bachelor of Science or Master of Science had the most willingness for participation in both executive and management actives. Also users which emphasize on environmental issues had more willingness for participation in executive and management forest parks activities (Table 8 and 9).

Analysis of Variance of Citizen`s Willingness for Participation in Executive Activities of Forest Parks: F-test is most often used when comparing statistical models that have been fit to a data set, in order to identify the model that best fits the population from which the data were sampled. The usefulness of this F-test is limited by the fact that two group variances may be different from each other. In this case the data are examined statistically by an analysis of variance using the F test. To select significant differences within data, the Duncan test was employed. The Duncan test gives significant differences which are consistent with the F test. Table (10) showed that willingness for participation in the executive activities of forest parks was significantly different among citizens with different levels of social capital. In addition, citizen with high level of social capital exhibited the highest values, and according to Duncan tests was significantly different from the citizen with low level of social capital.

Table 8: Comparison of citizen's' Willingness for participation in executive activities base on the selective variables (Kruskal- Wallis test)

Statistical test	Kruskal-Wallis	Sig	Groups	Mean
Level of education	13.117	*0.022	primary school	95.81
			high school	92.17
			Bachelor of science	113.20
			Master science	151.90
			PhD	119.64
Importance of environmental issues for users	16.330	*0.006	Never	14
			Very low	73.38
			low	95.83
			Medium	80.82
			high	110.03
			Very high	111.85

Table 9: Comparison of citizen's' Willingness for participation in managerial activities base on the selected variables (Kruskal- Wallis test)

Statistical test	Kruskal-Wallis	Sig	Groups	Mean
Level of education	12.179	*0.032	Under high school	136.50
			high school	93.44
			Bachelor of science	792.75
			Master science	114.70
			PhD	121.47
				133.19
Importance of environmental issues for users	19.458	**0.001	Ever	21.50
			Very low	83.50
			low	71.83
			average	74.95
			high	107.30
			Very high	116.44

Table 10: Variance Analysis of citizen`s willingness for participation in executive forest parks activities ("F" Test)

standard Variable	Dependent Variable	groups	Num	Mean	Standard Deviation	F	Sig	Duncan`s Test		
willingness for participation	Social capital	High	41	25.87	24.54	3.312	*0.038	1&2	1&3	2&3
in the executive activities		Average	112	31.32	17.89			*		
in forest parks		Low	52	36.53	19.91					

Table 11: Variance Analysis of citizen`s willingness for participation in managerial forest parks activities ("F" Test)

standard Variable	Dependent Variable	groups	Num	Mean	Standard Deviation	F	Sig	Duncan`s Test		
willingness for participation	Social capital	High	41	10.51	10.93	6.022	**0.001	1&2*	1&3	2&3
in the managerial activities		Average	112	14.72	8.83			*		
in forest parks		Low	52	17.42	9.91					

Also based on the results, willingness for participation in the managerial activities of forest parks was significantly different among citizens with different levels of social capital. In the other world, citizens with high level of social capital exhibited the highest values to social capital and according to Duncan tests; it was significantly different from the citizens with low and even medium levels of social capital (Table 11). Thus, high, medium and low levels of social capital were grouped in different classes.

DISCUSSION

In this study, tree main factors of social capital were analyzed with respect to their impact on citizen`s willingness to participation (trust, social and political knowledge and participation). The same study was conducted by Agostino [17]. Regarding to level of social capital`s score which gained by citizen, they were divided into three groups from high level to low level of social capital. Investigating social capital`s indicators was done

separately. So results of citizen`s social and political knowledge showed their knowledge about duties of Tehran mayor was high, but their knowledge about the duties of City Council was in low priority level. Also the result of trust statements shows people trust on their friends and coworkers. In comparison, the Benchmark Survey conducted in California [23] showed that 36 percent of the respondents believed that people can be trusted; this result was revealed a good trust level in social capital. It is while Tehran citizen`s trust was low about public institution and groups which they work with them or they are members of some urban organizations. So the social knowledge and trust were higher than political knowledge and trust in Tehran city. Moreover, results indicated that citizens participating in the voluntary participation especially in helping to the others or consulting with the family, friends and coworkers in encountering problems. Further results represent that people participate in formal participation especially in election and religious services and People who attend religious services are more likely to take an active role in participation. Uslaner [19] came into the same conclusion. In comparison, the result of Benchmark Survey conducted in California [23] about voting, Tehran citizen had more motivation in formal participation and voting.

Likewise, knowledge about public, political and social affairs, informal participation and formal participation revealed positive and significant correlation with citizens' willingness for participation in the executive activities and management of forest parks. Also results revealed positive and significant correlation between trust and citizens' willingness for participation in forest parks. The experiences noted by Putnam [6], Newton [1], Newton and Norris [22], Brehm and Rahn [25] and Uslaner [3] arrived at the same conclusions. In addition, Putnam [5] shows a strong relationship between participation in city management and social trust.

The results revealed positive and significant correlation between social capital and citizens' willingness for participation in the executive activities and management of forest parks. Rejean Landry et al's study [20] showed participation and social capital had significant and positive correlation.

Furthermore, results showed 10 percent of citizens had at least one experience in forest parks voluntary participation activities and 33.7 percent had willingness to participate in executive or managerial activities in forest parks. In the study of Sanesia and Chiarello [16] was indicated that 89.2% of respondents have willingness for participation in urban forests.

Extent of visitors' application of information sources was correlated with citizens' willingness for participation. The experiences noted by Oral [13] and Carver [16] arrived at the same conclusions. Thus visitors who have more communication they have more favorable viewpoint towards participation and have more tendencies. Moreover, visitors who come to forest parks several times in a month, they have sense of ownership to environment thus display more tendencies for participation in the management of forest parks.

Likewise, people who had adequate income and a sufficient level of social capital had more willingness for participation. Age and willingness for participation had negative and significant correlation. Tretheway etal's study [12] raveled to same conclusion. Cramb`s study [24] indicate that social capital first rises then falls with age and increase with years of formal education. So indicators such as income, youth and social capital are necessary for willingness to participation.

Citizen with various levels of education had the different willingness for participation in managerial and executive activities. In other words, citizens who had a high level of education had more willingness for participation in both managerial and executive forest parks activities. Uslaner [19] got same conclusion. Also results showed significant difference among citizens who had a high level of importance for environmental issues with who hadn't. Luzar and Diagne [15] and Singer [7] arrived at the same conclusions. This mean knowledge and attitude toward environmental problems, advantages participating in urban forest activities and attitude toward people presence in city`s administration were the bases for creating willingness for participation and start a good participatory projection.

Moreover results of ANOVA showed that willingness for participation in the executive and managerial activities of forest parks were significantly different among citizens with different levels of social capital. Also, citizens with high level of social capital exhibited the highest values and they were significantly different from the citizens with low level of social capital in willingness to participation. Albritton [17] came into same results. In the line of aforementioned issues, the following recommendations are presented:

- Paying attention to enhancing social and political knowledge among citizens
- Providing socio-cultural infrastructure for increasing level of social capital
- Providing appropriate and participatory structure in the management of urban forest parks.

- Allocation of budget for development of educational programs in relation with the role and importance of urban forestry and public participation strategies in management of forest parks.
- Establishment of urban natural resources extension and public participation associations.

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