The Relationship Between Frequency of Park Visits and Perceived Stress Level: The Case of Piri Reis Park

Nurgül ARISOY [*], Sertaç Güngör [2]

[1]*Department of Landscape Architecture/Faculty of Architecture and Desing, Selçuk University, Türkiye*
[2]*Department of Landscape Architecture/Faculty of Architecture and Desing, Selçuk University, Türkiye*

[*]*(nurgul@selcuk.edu.tr) Email of the corresponding author*

Abstract – This study examined the relationship between the frequency of visits to a recreational area such as Piri Reis Park and individuals' perceived levels of stress. Employing survey methodology to determine participants' demographic profiles, frequency of park visits, and perceived stress levels, the research found through regression analysis that gender might have an impact on stress levels, while other demographic variables did not significantly influence stress levels. Additionally, a strong negative relationship was identified between the frequency of park visits and perceived stress. The results suggest the potential of park visits in reducing stress; however, establishing a definitive cause-and-effect relationship is not feasible.

Keywords – Perceived Stress, Frequency of Park Visit, Urban Park, Konya, Piri Reis Park

I. INTRODUCTION

The modern lifestyle of today leads to an increase in stress exposure for individuals, adversely affecting their psychological well-being. Consequently, studying coping strategies for stress and exploring alternative sources of psychological well-being has become a significant part of psychological research. In this context, recreational areas play a crucial role in reducing stress and enhancing psychological well-being. Parks, particularly through the environments provided by green spaces and the outdoors, have the potential to positively influence people's moods. This research aims to understand the relationship between the frequency of visits to a recreational area like Piri Reis Park and individuals' perceived stress levels.

The contributions of natural settings in parks to both physical and mental well-being have long been discussed in literature. However, there is limited detailed research on how specific park visits affect individuals' daily stress levels. Hence, this research seeks to comprehend the stress-reducing effects of park visits and their potential in supporting individuals' psychological well-being. Stress is an inevitable part of modern life, and this study strives to better comprehend the role of parks in managing this stress.

Urban parks are vital for the psychological health and well-being of city residents. They offer opportunities for people to engage with nature, unwind, exercise, and socialize [1],[2]. Studies have demonstrated that visits to urban parks can positively impact people's mood, stress levels, mental fatigue, and social relationships. These visits can also increase physical activity, environmental awareness, and overall quality of life [3]-[5].

Previous literature has suggested that natural settings provided by parks can benefit both physical and mental health [6]-[8]. However, there is a lack of studies that examine how specific park visits affect individuals' daily stress levels. Thus, this research tries to fill this gap by exploring the stress-relieving effects of park visits and their potential to support psychological well-being. Stress is an unavoidable aspect of modern life, and this study is an effort to better understand how parks can help people deal with this stress. It also intends to discuss

the implications of urban park visits for urban planning and policymaking.

The selection of a recreational area like Piri Reis Park is based on its location within an urban area and its diverse visitor demographic, spanning various age groups. With these characteristics, the park provides a significant research area to understand the relationship between stress and relaxation among visitors from a broad demographic spectrum. This study employs comprehensive measurement and analysis methods to determine the impact of park visits on stress levels and how this effect correlates with demographic variables.

The research aims to evaluate the potential of parks in reducing the adverse effects of stress on individuals' health and well-being. Moreover, it aims to identify the limitations of this study and outline directions for future research to provide a more comprehensive and detailed understanding. Understanding the potential of park visits in reducing stress could be an effective strategy in supporting individuals' psychological well-being.

Understanding the mechanisms by which park visits help in coping with stress and their impact on psychological well-being represents a significant area in social psychology and recreation research. This study aims to make a significant contribution by understanding the influence of park visits on individuals' stress levels.

MATERIALS AND METHOD

The universe of the study consists of visitors to Piri Reis Park located in the Selçuklu district of Konya city. The sample of the study was selected using the simple random sampling method.

In this study, a structured questionnaire was utilized as the data collection tool. Questionnaires are conducive to reaching small sample groups and obtaining quantitative data. The research was conducted in May 2023. During this time, 130 surveys were distrubuted, but only 92 were returned. The survey encompassed inquiries concerning participants' socio-demographic profiles, duration of stay in the park, visitation frequency to the park, and their perceived stress levels.

The aim of the study is to ascertain the relationship between park visitors' frequency of park visits and their perceived stress levels by calculating descriptive statistics for all variables, conducting Pearson correlation analysis, and employing the multiple regression analysis technique. Additionally, an examination has been made to determine whether age, gender, marital status, income, and duration of stay in the park predict the perceived stress level.

Perceived Stress Scale: The scale used to measure perceived stress to composed of 14 items, developed by [9]. Participants evaluate each item on a 5-point Likert scale ranging from "Never (0)" to "Very frequently (4)." Seven items containing positive statements are reverse-scored (items 4, 5, 6, 7, 9, 10, and 13). The scores of the Perceived Stress Scale (PSS), PSS-14, range from 0 to 56, where higher scores indicate a higher level of perceived stress.

II. RESULTS

Individuals' socio-demographic characteristics and park usage status

A total of 92 park visitors voluntarily participated in the study. 38% of the participants were male, while 62% were female. The vast majority of park visitors involved in the research (82.6%) were between the ages of 31 and 60. Of these participants, 59.8% were married, and 40.2% were single. A majority (64.1%) belonged to the middle-income group. Among the visitors, the largest group (35.9%) frequented the park once a week, followed by those who visited at least once a week (28.3%), once a month (26.1%), and daily visitors (9.8%). 40% of the participants spent 2-3 hours in the park. Table 1 contains the data related to the individuals participating in the research.

Table 1. Individuals' socio-demographic characteristics

Socio-Demographic Characteristics	All (*n* = 92)	
	N	*%*
Gender		
Men	35	38
Women	57	62
Age		
19-30	13	14.1
31-60	76	82.6
61>	3	3.3
Marital status		
Married	55	59.8
Single	37	40.2
Occupation		
Unemployed	46	50
Housewife	2	2.2
Employed	28	30.4
Selfemployed	14	15.2
Retired	2	2.2
Income		
High	4	31.5
Middle	59	64.1
Low	29	31.5
Frequency of visit		
Once	24	26,1
once in a week	33	35,9
at least once in a week	26	28,3
Everyday	9	9,8
Duration of stay		
Less than 1 hour	4	4.3
1-2 hour	21	22.8
2-3 hour	40	43.5
3-5 hour	21	22.8
More than 5 hour	6	6.5

The role of gender, age, marital status, ıncome socio-demographic variables, and duration of stay in the park variable in predicting perceived stress

The multiple regression analysis was employed to determine whether participants' gender, age, income, marital status and duration of stay in the park significantly predict perceived stress, and the results are presented in Table 2.

Table 2. The results of multiple regression analysis on the prediction of perceived stress by gender, age, income, marital status, and duration of stay in the park variables

Model	B	SH	B	T	p
(Constant)	2,485	.641		3.879	**.000**
Gender	.212	.115	.192	1.847	**.068**
Age	-.179	.141	-.135	-1.271	**.207**
Marital Status	-.141	.165	-.129	-.853	**.396**
Income	-.111	.090	-.134	-1.227	**.223**
Occupation	-.035	.036	-.146	-.969	**.335**
Duration of stay	.036	.059	.063	.605	**.547**

R=.296 R²=.088 F=1.364 p=.238

The coefficient of the 'Gender' variable is 0.211, with a p-value (Sig.) of 0.067. This indicates that the significance of the effect of gender on stress levels is borderline for the commonly accepted significance level of 0.05. The effects of the other independent variables on stress levels are statistically insignificant or uncertain.

Upon examining the effect of the 'Gender' variable on stress levels, a standardized coefficient (Beta) of 0.192 was found. This suggests a tendency for the effect of gender on stress levels to be statistically significant (p=0.068). However, this effect is still relatively small and does not significantly enhance the explanatory power of the overall model.

Despite the positive or negative nature of the relationships between the other independent variables—'Age,' 'Marital Status,' 'Income,' 'Occupation,' 'Duration of stay'—and stress levels in terms of their standardized coefficients (Beta), these relationships are statistically insignificant (p>0.05).

As a result, according to this regression model, gender might have an effect on stress levels, although the effects of other independent variables (age, marital status, income, occupation, and duration of stay) on stress levels are not significant. Thus, the model's ability to explain stress levels is quite limited, indicating a low overall explanatory power of the model.

Table 3. The correlation between age, gender, income, marital status, duration of stay in the park, and the perceived stress score

	1	2	3	4	5	6	7
1 Perceived Stress	1.000	-	-	-	-	-	-
2 Gender	.189	1.000					
3 Age	-.137	-.011	1.000	-	-	-	
4 Marital Status	-.081	.042	.166	1.000			
5 Income	-.125	.082	.067	.302	1.000	-	
6 Occupation	-.010	-.076	-.212	-.714	-.249	1.000	-
7 Duration of stay	.067	.011	-.016	-.014	.088	-.062	1.000

There is a positive relationship between 'Stress_level' and 'Gender' (r=0.189, p=0.035). A weak negative correlation has been observed between 'Perceived stress' and 'Age' (r=-0.137, p=0.096). Similarly, a weak negative correlation has been found between 'Perceived stress' and 'Marital Status' (r=-0.081, p=0.222). There exists a weak negative correlation between ' Perceived stress' and 'Income' (r=-0.125, p=0.118). The relationship between ' Perceived stress' a nd 'Occupation' shows almost no correlation (r=-0.010, p=0.462). A very low positive correlation has been identified between 'Perceived stress' and 'Duration of stay' (r=0.067, p=0.264). Particularly, the relationship between 'Marital Status' and 'Occupation' is quite significant (r=-0.714, p<0.01). Correlations among other variables either demonstrate weak associations or almost no relationships. These findings indicate that there is no clear or straightforward relationship among the variables, but some variables are moderately associated.

The relationship between frequency of park visits and perceived stress

The correlation coefficients calculated between the scores obtained to examine the relationship between participants' frequency of park visits and perceived stress are presented in Table 4.

Table 4. Correlations between participants' frequency of park visits and perceived stress scores

		1	2
1	Frequency of visit	-	
2	Perceived stress	-.423**	-

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

The Pearson correlation coefficient between these variables is calculated as -0.423. The p-value (Sig. 2-tailed) associated with this correlation is found to be 0.000. The correlation marked with ** indicates that it is statistically significant at the 0.01 level (2-tailed).

Based on these results, it can be inferred that there is a strong negative correlation between the "Frequency of visit" and "Perceived stress" variables. This suggests that as the frequency of visits increases, the stress level tends to decrease, or conversely, as the frequency of visits decreases, the stress level tends to increase. This negative correlation finding suggests the potential of park visits in reducing stress. However, it is important not to interpret this relationship as causal; that is, an increase in visit frequency does not cause a reduction in stress but merely indicates an association between the two variables. Furthermore, the low p-value indicates that this relationship is not random, implying a genuine association between the variables.

Table 5. The correlation between frequency of visit and the perceived stress scores

		Stress level			Total
		Low	middle	high	
Frequency of visit	Once	1	21	2	24
	Once in a week	11	20	2	33
	At least once in a week	10	16	0	26
	Everyday	7	2	0	9
Total		29	59	4	92

Upon examining the distribution of stress levels concerning different visit frequencies:

Participants who visited "Once": Predominantly, individuals exhibited moderate stress levels, while a minimal representation was observed in the low stress level category. Additionally, a limited number of participants experienced high stress levels.

Those visiting "Once a Week": Within this group, individuals predominantly displayed moderate stress levels. Although there was a greater representation in the low stress category,

participants experiencing high stress levels remained limited.

Visitors at "At Least Once a Week": Remarkably, this group did not feature any representation in the high stress level category. However, a varying distribution was apparent between the other two stress levels.

Individuals visiting "Everyday": While this group represented individuals with low stress levels, their representation in the moderate and high stress level categories was notably minimal.

This table illustrates the distribution of stress levels across different visit frequencies. As the visit frequency increases, lower stress levels are generally more observed, while there is a decrease in higher stress levels.

III. DISCUSSION

The findings indicate a potential positive impact of park visits on stress levels, yet they do not provide a clear explanation for the exact source of this effect. This study highlights the potential of park visits among stress coping strategies; however, a deeper understanding of this relationship may necessitate the consideration of additional factors or variables.

Considering the limitations of the study, it is important to note that the results do not establish a definitive causal relationship. Sample size and analysis methods could affect the generalizability and accuracy of the findings. Additionally, other variables not considered in the study might exist. Therefore, further in-depth and comprehensive research into the potential of park visits in stress reduction is warranted.

IV. CONCLUSION

This study examined the relationship between the frequency of visits to a recreational area as Piri Reis Park and the perceived stress levels of participants. The findings suggest that park visits could impact perceived stress levels. Regression analysis results indicated that gender might influence stress levels, while age, marital status, income, employment status, and duration of stay in the park did not significantly influence stress levels. Furthermore, a strong negative relationship was found between the frequency of park visits and perceived stress. However, it is essential to note that this relationship should not be interpreted as causation. These results imply that park visits might play a potential role in coping with stress.

In conclusion, there are indications that park visits could play a positive role in coping with stress. However, the complexity of this relationship and the presence of other influencing factors suggest the need for further research to explain the precise cause of this relationship. Further exploration in this field might help us better understand the potential of parks as stress coping strategies.

These data indicate an association between visit frequency and stress levels, yet do not imply a definitive causal relationship. The observed variations among stress levels suggest multiple influencing factors, indicating that visit frequency alone is not the sole determinant. Further detailed analyses or the consideration of additional variables may contribute to a more comprehensive understanding of this relationship.

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