

INFLUENCE OF VISUAL ATTRIBUTE OF POCKET PARKS IN INCREASING PERCEIVED RESTORATIVE POTENTIAL: A PATH MODEL

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Abstract:

Today, pocket parks can contribute to enhancing health and restorative urban quality and do not depend only on size. However, the role of the visual attributes of pocket parks in their increasing Perceived Restorative Potential (PRP) is unknown. Thus, the aim of the present study is to investigate the extent to which visual attributes, individually and in combination with restorative components, predict PRP in pocket parks. A questionnaire survey was distributed among 384 visitors of eight pocket parks of District 1 of Tehran. The respondents were randomly selected with the restorative components, PRP, and four visual attributes of pocket parks (coherence, mystery, complexity, legibility) measured. The results showed that among four visual attributes, mystery and complexity appeared to be significant positive predictors of restorative components and PRP. Furthermore, their effect on PRP was partially mediated by the restorative components. The findings also indicated that coherence negatively predicted PRP, while legibility was not a significant predictor of PRP. The results of the present study help the ideas of planners, urban planners, and landscape architects to make good use of and rehabilitate abandoned lands. Indeed, they can use the obtained results to better plan and design such parks based on the visual attributes of pocket parks effective in reducing mental fatigue.

Keywords: Complexity, Coherence, Landscape design, Pocket park, Restorative, Mental fatigue, Mystery.

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INTRODUCTION

Nowadays, the green spaces in cities and especially metropolises have adopted a variety of functions. In addition to improving the environmental conditions, they are suitable places for spending free time and mitigating the nervous pressures of machinery life based on their distribution and dispersion in the cities (Toutakhane and Mofareh, 2016). Urban open spaces (e.g., urban parks) play a pivotal role in improving the quality of life of city dwellers by accommodating various physical and social activities while further creating social coherence for sustainable development (Do *et al.*, 2019). Overconcentration and constant attention, as seen in desk-bound lifestyles, exhaust the mind and causes mental errors, distraction, irritability, and lower performance leading to fatigue or non-focus of the mind (Kaplan, 1998). Increased environmental challenges and current living conditions in cities have led to increased mental fatigue among citizens. Attention restoration theory states that natural environments can reduce stress and eliminate mental fatigue (Kaplan and Kaplan, 1989; Farahani *et al.*, 2018). Green spaces and parks provide ample opportunities to get closer to nature, relax in the fresh air, and restore mental restoration capacity (Government, 2015). However, apartment life and the lack of enough space to create green spaces deprive people of the many benefits of these spaces (Wolch *et al.*, 2005). The unprecedented rate of urban growth in developing countries causes various problems, such as deficiency in public infrastructure services, lack of green spaces, and inadequate service provisions (Abebe and Megento, 2016). Many people living in urban areas could not use these spaces frequently due to being distanced from large green spaces (Peschardt *et al.*, 2012; van den Berg *et al.*, 2010). In contradiction with what many perceive, enjoying the benefits of green spaces is not necessarily dependent on large green spaces and large parks. A very small type of park known as a pocket park could be a very good idea to create a park in a small space which has received researchers' attention (Shahhoseini and Bin, 2014; Nordh *et al.*, 2009; Nordh and Østby, 2013; Peschardt *et al.*, 2012). Pocket parks are designed as an alternative to private backyards, as gathering spaces for recreation, interaction with nature, sharing common interests with neighbors, as well as for social interactions (Gibson and Canfield, 2016; Peschardt *et al.*, 2014).

Researchers have also shown that these small parks could also serve as restorative environments (Peschardt *et al.*, 2014; Nordh *et al.*, 2009; 2014). According to Kaplan's theory, people like and prefer landscapes with four visual attributes: Coherence, complexity, legibility, and mystery. Nevertheless, the role of the four visual attributes of pocket parks in increasing PRP is unknown.

Pocket parks

Pocket parks are urban green spaces on a very small scale, also known as mini-parks (Cooper and Greene, 1998; LeFlore, 2012; Seymour, 1969). They are created in lowland areas, with an area of up to 4000 m² ha, which may have been previously planted, unused, undeveloped, or vacant (Government, 2015). These parks can be located among a group of houses and scattered throughout the urban fabric to serve the local population. These small parks tend to act as suitable parks for "small-scale" neighborhoods. Meanwhile, they try to fulfill all kinds of needs like larger parks do (Blake, 2013). These small parks are a safe and attractive environment for people (Moghaddam *et al.*, 2014). They are small areas of public open space that allow people to get away from the hustle and bustle of the city streets where they can enjoy the atmosphere (Government, 2015). A pocket park can serve a business district, a community center, or a residential neighborhood. A successful pocket park has four key features: they are accessible, they allow people to participate in a variety of activities, they are spaces for relaxation, and finally, they are places for social interactions (Moghaddam *et al.*, 2014).

Attention restoration theory

Kaplan's theory of attention restoration is a useful model for reducing stress and anxiety in urban areas away from nature (Kaplan and Kaplan, 1989). In the attention restoration theory, one's attention and concentration are divided into two classes. The voluntary class needs thinking and involves limitations, which, after a while, creates fatigue and diminishes efficiency. The other is involuntary and has the ability to respond to some environmental stimuli and is unlimited. In the attention restoration theory, the role of nature in the relaxation of voluntary power as well as its effect on involuntary power, are addressed, which facilitates the relief of mental fatigue and improves mental health (Jiang, 2014). Following other researchers define restoration as an intrapersonal resource reconstruction process that reduces stressors and fatigue (Hartig, 2004; Honold *et al.*, 2015; Kaplan, 1995). According to Kaplan's theory, restorative environments include four components: extent, being away, compatibility, and fascination. The first component of the attention restoration theory is away, emancipation, exhilaration, and escape of the mind from the place or situation that creates mental fatigue. These are environments that can easily distract our mind from mundane dilemmas and concentrate it on another issue. Extent is an attractive characteristic that engages the mind for a long enough period of time and lets the direct concentration mechanism relax. The other component is fascination, which is associated with environments that may attract out attention without any extra effort. The

last component of this theory is compatibility with environmental conditions, which is associated with easy-to-use and convenient environments that can easily meet the demands and needs of users. Compatibility occurs when the setting is commensurate with what one is trying to achieve. The PRP is actually the result of being in a restorative environment which would increase people's concentration and reflection and free the mind from problems (Herzog *et al.*, 2002). Studies have shown that natural environments with these four restorative components have high restoration properties making people prefer natural environments to urban environments (Kaplan, Rachel; Kaplan, 1989; Felsten, 2009). Thus, parks and green spaces in cities have also been found as restorative environments mitigating people's mental fatigue.

Information-Processing Theory

In other Kaplan's theory (Information-Processing Theory), preferences are the tendency toward options that preserve individuals from inappropriate environments and guide them toward the desired status (Kaplan *et al.*, 1972). Stephen and Rachel Kaplan developed a theoretical framework for organizing environmental preferences based on four visual attributes: coherence, legibility, complexity, and mystery (Kaplan *et al.*, 1972). This theory shows that people have two basic needs in relation to the environment: one is to understand it and then to explore it. When these two needs intersect with two levels of consciousness, four factors arise. These two levels of perception can be summarized in two categories of rapid and immediate perception and inferential perception. Thus, these four variables, which are called "information variables", are coherence (immediate perception): providing a sense of order and assisting in directing attention), complexity (immediate cognition): variation of the scenes' wealth of information and offers many different kinds of distinct elements in the scene), legibility (exploratory perception): scenes where the elements are distinctive and easily identified), and mystery (exploratory cognition): scene promises the opportunity for viewers to go deeper into the landscape (Kaplan *et al.*, 1998; Kaplan and Kaplan, 1989).

Previous studies on restorative environments and visual attributes

The majority of studies on restorative environments compared urban landscapes and natural landscapes and showed that people prefer natural landscapes to urban landscapes by having four restorative components (being away, fascination, extent, and compatibility). Furthermore, urban natural landscapes were also preferred to urban landscapes. Thus, parks and urban green spaces as urban natural landscapes have known as restorative landscapes and settings (Kaplan and Kaplan,

1989; Felsten, 2009). However, What visual characteristics of urban natural landscapes make them more restorative?

In a study by North *et al.* (2009), she showed that a higher presence of "green land cover, shrubs, trees, and water" was positively associated with environmental restoration in small urban parks, while a higher presence of hard spaces (such as carpets, buildings, stairs) with negative relationship is associated (Nordh *et al.*, 2009). Similarly, in another study using the Conjoint Analysis method, the components of small urban parks, including trees, shrubs, grasses, flowers, water characteristics, and restoration outcomes (PRP), were examined. Consistent with their previous study, it showed that the number of grass and trees had the greatest impact on the choice of respondents (Nordh *et al.*, 2011).

A few studies also investigated the role of visual attributes of urban natural landscapes in increasing PRP. In a study on urban natural landscapes of Malaysia, the relationship between four visual attributes, includes of coherence, legibility, complexity, and mystery, and PRP in and without restorative components was investigated (Pazhouhanfar and Mustafa Kamal, 2014a). The results showed that all attributes predicted the PRP variable except for legibility, and mystery had the greatest impact on it. In addition, their relationships were mediated by the components of the restorative environment. Recently, these attributes have been studied in the natural landscapes of labor offices, and similar results from most studies have shown that in addition to the strong link between nature and restorative results, the mystery has the highest weight, followed by complexity, coherence (van Esch *et al.*, 2019); and consistent with the previous studies legibility was not found to be. In a study, the visual predictors of 16 urban pocket parks in Tabriz were examined. The results showed that mystery, as an index for twisty routes and an extent of trees is of the highest priority in urban pocket parks, followed by coherence, shelter, and complexity. Finally, legibility and landscape were the least preferred indicators of broad landscape and skyline (Shahhoseini *et al.*, 2014). However, the role of the four visual attributes of pocket parks in enhancing PRP is not known yet.

In general, as mentioned above, the visual attributes of pocket parks include: coherence, mystery, complexity, and legibility can play an important role in increasing PRP. However, parks research has investigated the relationship between them in pocket parks. Thus, the aim of the present study is to investigate the extent to which these visual attributes, individually and in combination, predict PRP in pocket parks. This study assesses the extent to which four restorative components mediate the relations between four visual attributes of pocket parks and the PPR. According to the literature review, coherence was included as a visual attribute with respect to earlier

knowledge in preference research, and it is possible that Coherence as a characteristic of environment could contribute to increasing the restorative potential of landscape settings (Pals *et al.*, 2009, Pazhouhanfar *et al.*, 2014, 2018). The theoretical model is presented in Figure. 1. The three hypothesized mediating effects were examined using Baron and Kenny’s (1986) procedure.

H1: There is a significant relationship between visual attributes of pocket parks and PRP.

H2: There is a significant relationship between the visual attributes of pocket parks and each of the restorative components.

H3: There is a relationship between visual attributes of pocket parks in present restorative components and PRP. Furthermore, the effect of visual attributes of pocket parks in present restorative components is substantially less than its effect without restorative components.

METHOD

Study Area

District 1 of Tehran has ten areas and 26 urban neighborhoods. District 1, including its privacy, is about 210 km², and its population is about 445 thousand persons. It is a mountainous area with gardens, rivers, valleys, and canals as the center of Shemiranat. This district is one of the most desired districts of Tehran due to its natural resources as well as cultural and historical heritage. The green space of the sixth area is 1050000 m², which has the highest per capita green space in Tehran and is almost twice the world standard. The sixth area includes 32 parks with complete park equipment, including benches, lamp stands, trash cans, bodybuilding equipment, etc., and reaches an area of 371097 m². The predominant vegetation of the area is cypress, which is suitable due to the cold of the area and the lack of water resources, as well as the low water requirements of this type of plant.

Questionnaire

A questionnaire survey probed users’ perceptions of eight pocket parks in Tehran. The restorative components, PRP, and visual attributes were studied through an onsite questionnaire survey. Respondents were randomly selected among visitors. The first part evaluated the socioeconomic profile, including gender, age, marital status, and education level. In the second part, the perceived restorativeness of pocket parks was rated using the Perceived Restorativeness Scale PRS proposed by Hartig *et al.* (1996), and PRP was also measured with two items (Herzog *et al.*, 2003). The third part presented seven visual attributes of pocket parks (seven positive and five negative). Four visual attributes of pocket parks, including coherence, mystery, complexity, and legibility measured using standard definitions by Lee and Kozar (2009), with 16 items measured base on previous studies (Lee and Kozar, 2009). All items were rated on a 7-point Likert Scale of agreement ranging from 1 (not at all) to 7 (a great deal). All questionnaire survey procedures were performed in compliance with relevant laws and institutional guidelines, and the appropriate institutional committee has approved them. Questionnaires were distributed on both weekdays and weekends, at different hours of the day, and in different parts of pocket parks.

Sampling, questionnaire survey

In order to test the research hypotheses, eight pocket parks were selected as samples for collecting preliminary data. Purposeful sampling was used to select the samples. The criterion for selecting the areas was high per capita green space, particularly the small urban parks, and the high utilization of residents in the selected areas. Suburbs should also be considered residential, and in addition to the parks under study, they are free for the usage of all sections of society and age groups. To determine the sample size, Cochran’s logical formula for infinite populations was used. A total of 400 questionnaires were distributed among users in the age group of adults at different times of the week. The participants completed the questionnaire independently, and it would be explained if required. The questionnaire was checked after completion to be completed if there was an answer left.

Data Analysis

All data are analyzed by computer using SPSS. Interclass reliability analysis was performed for each of the subscales using Cronbach’s alpha. A Cronbach alpha greater than 0.7 refers to excellent internal consistency. High reliability of the instrument was found for each construct with a value of Cronbach alpha over 0.75 (Table 1).

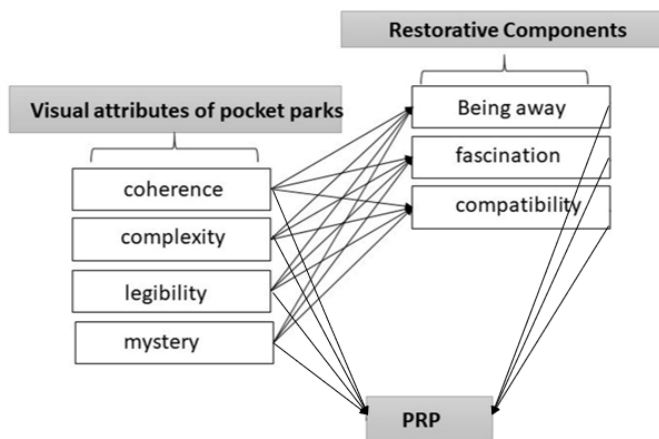


Fig. 1 Path model

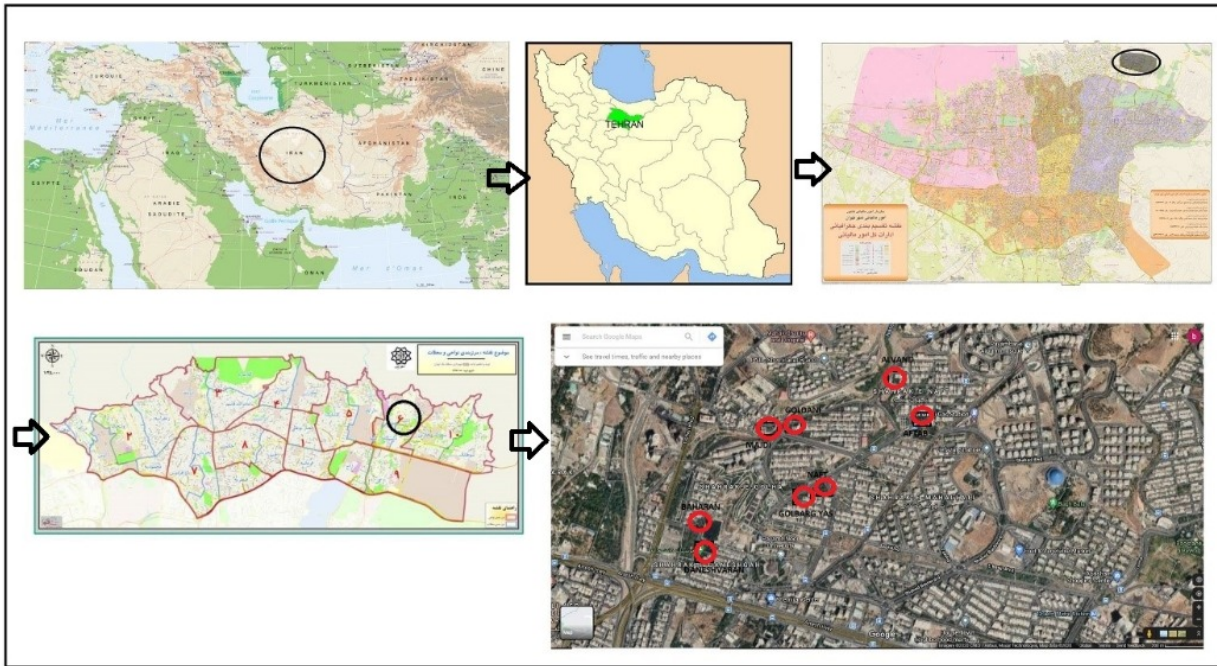


Fig. 2 Map of the study area

Table 1. Cronbach's alpha coefficient

Variables	Dimensions	Cronbach's alpha
Visual attributes	Coherence	0.754
	Complexity	0.828
	Mystery	0.901
	Legibility	0.748
Restoration	Being away	0.746
	Fascination	0.796
	Compatibility	0.829
	PRP	0.789

Table 2. Sample classification

	Classification	Frequency percentage (%)
Gender	Female	55
	Male	45
Age	Up to 20 yrs old	14.3
	21-30 yrs old	24
	31-40 yrs old	21.5
	41-50 yrs old	13.8
	Over 50 yrs old	26.5
Education	Diploma and less	23.3
	Associate's degree	22.5
	Bachelor	44.8
	Master	8.3
	Ph.D.	1.3

The three hypothesized mediating effects were examined using Baron and Kenny's (1986) procedure. Baron and Kenny's (1986) procedure suggests that to examine if X's effect on Y is mediated by M, three regression models should be tested: (1) $Y=f(X)$; (2) $M=f(X)$; and (3) $Y=f(M, X)$. The role of M as a mediator is not established until: (a) all three models are significant, and (b) the effect of X on Y in model (3) is substantially less than its effect. Thus, Multiple liner Regression analysis were used to test research hypotheses 1. A multiple hierarchical liner regression was run to test hypothesis 2 and 3. Sobel test was also performed for confirmation mediation.

RESULTS

Descriptive statistics

Descriptive statistics for the case studies classified are presented in Table 2. 55% of respondents were female. About 60% of respondents were from the age group of Up to 20 years old (63.8%) for leisure (47.5%). More than half of the respondents had university degrees (55%).

Path Analysis

Path analysis using ordinary least squares regression was used to examine the direct and indirect relationships between visual attributes and PRP, the latter being effects mediated restorative components. First, Multiple liner Regression analysis was run four predictors as independent variable and each of restorative components as dependent variable for test hypothesis 1 (Table 3). Then, hierarchical multiple liner regression was run in and without the presence of the restorative components for test hypothesis 2 and 3 (Table 4). Sobel test was also performed for confirmation mediation analysis (Table 4).

Relationship between visual attributes and Being away

The result of analysis of the visual attributes on Being away base on Table 4 showed that Mystery and

Complexity had the highest weight in predicting PRP ($\beta = 0.363, t = 7.417; \beta = 0.310, t = 5.955$) while e Coherence and Legibility was more notable in predicting PRP ($\beta = 0.084, t = 2.012; \beta = 0.99, t = 2.029$).

Relationship between visual attributes and fascination

The result of the relationship between visual attributes and fascination was performed (Table 3). Results showed that all of the predictors explained 59% of fascination. The mystery was the most influential predictor ($\beta = 0.515, t = 12.683$) and the second variable was Complexity ($\beta=0.264, t = 6.072$). Legibility and Coherence had the last explanatory power, respectively ($\beta = 0.116, t = 2.838, p < 0.01; \beta = 0.073, t = 2.121, p < 0.001$).

Relationship between visual attributes of preference and compatibility

Similar to previous results, according to the result of Table 3, mystery and complexity were the most influential variables in predicting Compatibility ($\beta=0.473, t=12.254$).

Relationship between visual attributes and PRP in, without the presence of restorative components

A multiple hierarchical linear regression was run in and without the presence of the restorative components (Table 5). Predictors of preference are entered in the first step. All visual attributes accounted for 43% of explained variance in PRP except for Legibility. The mystery was strongly associated with PRP ($\beta = 0.46, t = 8.992$), and complexity was also a positive attribute in explaining PRP ($\beta = 0.269, t = 5.603$), while Coherence negatively predicted PRP ($\beta= -0.095, t = -2.321$). Restorative components were entered in the next step. When entering them into regression analysis, the b-values for Complexity and Mystery of attributes became smaller, but b-value Coherence did not change. R square change was also found significant. The mediating conditions set by Baron and Kenny (1986) were satisfied for Mystery and Complexity according to the results of Tables 3–4. However, the Sobel test was also performed for confirmation mediation analysis. Results indicate that the reductions were statistically significant and Complexity and Mystery are partially mediated.

Table 3. Multiple regression analysis of visual attributes on restorative components in pocket parks

	Beta-coefficients		
	Being away	Fascination	Compatibility
Coherence	0.084**	0.073**	0.031**
Complexity	0.310**	0.264**	0.306**
Legibility	0.099**	0.116**	0.17**
Mystery	0.363**	0.515**	0.473**
F	69.129	142.128	171.678
R ²	0.412	0.591	0.635

Table 4. Summary of regression models for testing mediation effects of restorative components between visual attributes and PRP in pocket parks

Variables	B	S. E	Beta	Sobel test (Z)
Mystery	.46	.05	.46***	
Coherence	-.14	.06	-.10*	
Complexity	.30	.05	.27***	
Legibility	-.01	.04	-.02	
R ² = 0.43				
Mystery	.39	.06	.39***	2.3*
Coherence	-.14	.06	-.10*	-
Complexity	.18	.06	.16**	5.5***
Legibility	-.02	.04	-.03	
Being away	.15	.07	.13*	
Fascination	-.03	.05	-.04	
Compatibility	.15	.07	.14*	
R ² = 0.45				

R² change was significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

DISCUSSION

This study presented the extent to which four visual attributes defined by the preference matrix, individually and in combination with restorative components, predict PRP in pocket parks. Consistent with previous studies that green spaces in urban can contribute to enhanced health and restorative quality of them does not depend only on size (Nordh *et al.*, 2009; 2011), this study also showed that although pocket parks are small, they have an important role in perceived restorativeness of people. The main goal of this study was to test the relationship between the visual attributes of pocket parks and PRP in and without the presence of restorative components. In the first step, the relationship between visual predictors and PRP in each restorative environment was investigated. The results indicated that there was a significant relationship between some of the visual attributes of pocket parks and dependent variables. Two visual attributes of pocket parks, including mystery and complexity, appeared to be significant positive predictors of restorative components and PRP. Consistent with previous studies, among all attributes, Mystery was found to be as highest influential variable on PRP and restorative components (van Esch *et al.*, 2019; Pazhouhanfar *et al.*, 2018; Pazhouhanfar and Kamal, 2014). Similar to some studies, complexity was also found as the second attribute in explaining dependent variables (Pazhouhanfar *et al.*, 2018; Pazhouhanfar and Kamal, 2014).

The theory's Kaplans (1989) stated that people like views that create some level of understanding and offer the opportunity to explore. However, the results of this study indicated that just exploration variables, including mystery and complexity, were two important attributes in explaining them. Thus, the study reported that people

just prefer pocket parks that provide the opportunity to explore, and environments whose information can be immediately extracted have the opposite effect on preferences. Furthermore, since pocket parks are small, one may prefer that the environment is incoherent and illegible. Thus, it seems that pocket parks with Mystery and Complexity can contribute to escaping one's thoughts from the pressures and obligations of everyday life, enhance visual qualities in attracting one's effortless attention and create a match fit between one's purposes and inclinations.

In the second step, when restorative variables were interned, the findings indicated that these attributes, either directly or mediate through restorative components, could influence PRP. In agreement with the study by Pazhouhanfar (2014). Mystery and Complexity were partially mediated by restorative components. It shows that environments consisting of a variety of visual elements and features led to one's concentration and an interest to explore the environment further and gain more information as well as support intended activities causing increased PRP and each of the restorative components.

In general, this study showed that although parks and green spaces can contribute to increasing PRP, their visual attributes also lead to enhanced PRP. Studies have mentioned that partial concealment of spaces such as pathways, shadows, layered spaces, and densely vegetated spaces could enhance the mystery of landscapes. There are many ways to create a mysterious environment. Spiral paths are among the characteristics of a mysterious environment that increase the viewer's motivation to search and discover the environment after each twist, create enthusiasm in the viewer, and increase the mysticism of the space (Yilmaz, 2016). Variable and rough textures reduce the level of space attribute. Thus, homogeneous and soft textures are used on the ground surfaces, as this creates a private atmosphere and increases the attribute level. This is because it allows the observer to discover and move (Hartig, 1993). Mystery in an environment is strengthened by characteristics such as curved paths, relative proximity by leaves, and linear vision and width (Kaplan and Kaplan, 1989).

Complexity is the variety of elements that make up a vision and knowledge enough to keep a person interested and aware. Variety stimulates motivation to discover (Yilmaz, 2016). Low coherence of landscapes leads to increased complexity. Large and wide landscapes have less complexity, while the presence of many and varied elements in a landscape increases the motivation to discover it (Kaplan and Kaplan, 1989).

Inconsistent with previous studies, the influence of another attribute coherence on PRP was negatively found. It mentioned pocket parks that visual elements of the scene fit together well and order and was organized do not contribute to enhancing PRP (van Esch *et al.*, 2019; Pazhouhanfar *et al.*, 2018; Pazhouhanfar and

Kamal, 2014). The concept of coherence is a two-dimensional concept that refers to the clarity and comprehensibility of forms, elements, parts, components, and the relationship between them. The presence of rhythm, a clear expression of the basic rules of design and thematic continuity in the design, is one of the signs of coherence in the design (Lynch, 1960). The individuals easily recognize and understand certain and regular landscapes. By repeating some simple topics and combining them into a texture, their coherence can be increased (Kaplan and Kaplan, 1989).

Further, the last visual attribute, legibility, was not significant in PRP, similar to previous studies (van Esch *et al.*, 2019; Pazhouhanfar *et al.*, 2018). The results showed that pocket parks contained distinct elements that led to people having a better understanding and finding their way around but did not help to increase PRP. The concepts of legibility, organization, predictability, signs, route signs and space differentiation are among the concepts related to coherence in design (Evans and McCoy, 1998). The sudden changes in size, color, and texture are signs of weakness or lack of coherence between the components of the design, which also leads to increased stress levels (Bechtel, 1976).

The clarity and simplicity of the form enhance the legibility of the design in the sense that the form is as close as possible to the geometric forms as well as the appropriate signs (Kaplan and Kaplan, 1982; Lynch, 1960). The present research had a number of limitations that could suggest avenues for future research. This study focused on the role of nature and the characteristics of visual attributes. The questions about the role of other variables and their effect on PRP remained unknown. In this study, research variables were investigated in pocket parks, while other urban green spaces were not controlled. In subsequent studies, investigating other variables of visual attributes in different types of spaces can be very useful. The effect of participants' characteristics and contexts on the perception of resuscitation in future studies should also be investigated and compared with each other. The study results can help urban planners, architects, and landscape designers to design parks for PRP of these spaces by considering the effect of characteristics of visual attributes on PRP.

CONCLUSION

Parks can provide a variety of natural environmental advantages for residents. Many studies regarding the positive effects of nature on environmental psychology are based on attention restoration theory. Pocket parks can be built in abandoned areas that are very common throughout the city, and in spite of their relatively small area, with proper planning and design, they can bring a variety of advantages to nature and mental fatigue PRP. The results of data analysis showed that characteristics

of visual attributes, as characteristics of the natural urban landscape, increase the results of mental fatigue PRP of citizens in pocket parks. The results of the present study could improve citizens' understanding of the value of a pocket park and contribute to the ideas of planners, urban planners, and landscape architects to make good use of and regenerate abandoned lands. They can use the obtained results to better plan and design such parks based on characteristics of visual attributes effective in reducing mental fatigue PRP.

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