

# Chapter 6

## Urban Parks and Mental Health

### Recovery During the Pandemic: Insights from an Iranian Case Study



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**Abstract** As a result of the COVID-19 pandemic, urban parks have been highlighted as necessary for cities to cope with the stress of the virus threat and the physical restrictions imposed in response. Public health and urban planning can benefit from examining the associations between urban parks and mental health. The present study aimed to investigate the relationship between Fateh Garden and the mental health of its users. It is vital for public health and urban planning to take into account the associations between parks and mental health. Fateh Garden is the second largest park in Karaj, with an area of 15 ha. This study employed a modified Warwick-Edinburgh Mental Well-being Scale (WEMWBS) to measure the impact of Fateh Garden on users' mental health. Seventy-six of the users filled out the questionnaire. Furthermore, fifty-seven semi-structured interviews composed of 27 males and 30 females were conducted with Fateh Garden users. Participants were asked to rate fourteen items on a 1–5 Likert scale about their mental health. The mean score in this study is 52.12, which is higher than the mean score norms for WEMWBS and shows the high impact of Fateh Garden in improving the mental health of its users. The results also indicated that positive mental health was significantly and positively correlated with Fateh Garden's users' age, marital status, and employment status. This study confirmed a generally beneficial relationship between Fateh Garden and the mental health of its users, especially during the pandemic. Moreover, the present study shows that people choose a park that reminds them of their favorite components and gives them peace of mind.

**Keywords** Urban parks · Mental health · Pandemic · Iranian park · Fateh Garden

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## 1 Introduction

As a synonym for mental wellbeing, ‘positive mental health’ can be described as ‘*a state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community*’ (World Health Organization, 2018). Mental health is significantly affected by the ongoing COVID-19 pandemic. It is expected that the mental health impact of the pandemic will be long-lasting and wide-ranging, from the concerns about virus transmission and the psychological effects of lockdowns and self-isolation to the effects of financial worries, unemployment, and social exclusion (World Health Organization, 2021). There have been studies on the relationship between nature and mental health (e.g., Bratman et al., 2012; Douglas, 2012; Kaplan, 2001a, 2001b; Maller et al., 2006; Sullivan et al., 2004). However, parks in modern urban areas tend to be among the most accessible forms, and importantly for health equity, are usually provided and maintained for the public good (Wood et al., 2017). As a result of the COVID-19 pandemic, urban parks have been highlighted as important for cities to cope with the stress of the virus threat and physical restrictions imposed in response and also as alternative places for physical activities and social interactions (World Health Organization, 2021).

The importance of parks for mental and physical health has gained more attention in recent years (Callaghan et al., 2020). Urban parks can promote physical activities that are protective of mental health. Self-esteem is often boosted by physical activities, such as sports (Biddle, 2016). A limited, but significant body of research has demonstrated the benefits of parks on mental health (Wood et al., 2017; McEachan et al., 2018; Sarkar et al., 2018; Callaghan et al., 2020). Despite this, it is unclear how parks can contribute to mental health because there are relatively few published studies on the topic (Wood et al., 2017). To date, research has focused more on the psychological benefits of access to parks for physical activity than on parks as health outcomes (Wood et al., 2017). Mental health can be positively impacted by urban parks according to a number of theories (Callaghan et al., 2020).

It was proposed by Kaplan and Kaplan (1989) that urban parks provide psychological restoration to counter the mental fatigue of modern life in urban environments. People’s desire for nature is referred to as biophilia; humans evolved in natural landscapes where green spaces would have provided shelter, food, and so on, so they may still feel positive in such environments (Houlden et al., 2017; Wilson, 2007). According to Attention Restoration Theory, everyday tasks require effortful and focused attention, while nature attracts an involuntary fascination that allows the brain to rest and regain concentration (Kaplan, 1984, 2001a, 2001b). Regarding Stress Recovery Theory, nature views help restore a relaxed emotional state in stressed individuals (Ulrich, 1986; Ulrich et al., 1991). Based on Antonovsky’s theory (1996), positive mental health emphasizes health and well-being rather than diseases, which promotes a positive paradigm approach to health and wellbeing (Appelqvist-Schmidlechner et al., 2020). Houlden et al. (2017) examined whether green space

is associated with a multidimensional mental wellbeing measure, including eudaimonic and hedonic items. In their study, no statistically significant correlation was found between mental wellbeing and the amount of green space in the local areas.

Using a scoping review methodology, Callaghan et al. (2020) conducted an overview of the literature regarding urban parks and mental health. Based on the results of their work, there is a positive link between urban parks and mental health in the majority of studies, which indicates that increasing urban parks may have benefits for the health of the public in the long run. An interesting and novel study by Appelqvist-Schmidlechner et al. (2020) found a positive relationship between mental wellbeing and physical activity among young adult males, which is hard to reach in health surveys. Individuals with low levels of positive mental health may benefit from leisure time, according to the findings of this study.

Generally, there are positive associations between parks and mental health based on the small number of studies looking at mental health as a primary outcome (e.g., Annerstedt et al., 2012; Astell-Burt et al., 2014; Francis et al., 2012). Parks and mental health have been linked in the literature through several pathways; In addition to their restorative effects (Maller et al., 2006), parks are known to reduce stress (Ward Thompson et al., 2012) and facilitate social interaction and the development of social ties (Bedimo-Rung et al., 2005; Chiesura, 2004; Kuo et al., 1998; Wolch et al., 2014). This study's purpose was to investigate the relationship between Fateh Garden and the mental health of its users. The second goal of this research was to investigate the relationship between the age, gender, educational level, and marital and employment status of users with their mental health.

## 2 Urban Parks in Iran: A General Overview

The increasing population of cities, living in small apartments, the decline in household income, and the rising marriage age have made Iranian urban parks the main places for leisure, especially for young people and their friends (Bahriny & Bell, 2020). Urban parks, as popular places in Iran (Hami & Maruthaveeran, 2018) have been used for passive and individual active activities (Hami, 2009) and sports activities (Hami & Maruthaveeran, 2018). A noteworthy point is the significant presence of women in Iranian urban parks. Despite the government's mandatory dress code for women and other limitations restricting women's presence and activities in Iranian urban parks, they constitute half of the users of urban parks in Iran (Khakzand et al., 2015). According to what has been said (Hamzenejad & Gorji, 2018), urban parks in Iran are receiving more attention than before.

Arjmand (2017) believes that the construction of urban parks in Iran may be based on the idea of Persian gardens, or it may be formed from the western idea in the modernization process. He mentions that some scholars consider Persian gardens the Persian version of the modern park. As he asserts, Persian gardens have been integral to architecture and urban planning in Iran. Due to the lack of sufficient water

resources in Iran, several private gardens in Iranian cities have been turned into urban parks to compensate for the lack of urban parks (Rismanchian, 2009).

One of these gardens is Fateh Garden, located in Karaj. Until about ten years ago, it was used as a private garden full of many fruit trees that were sold commercially. Due to the convenient location of this garden in the city, its numerous and valuable trees, and the demand of the citizens of Karaj, the Municipality of Karaj took over this garden, and within a few years, with the addition of the necessary facilities, turned this garden into an urban park. The main aim of the study was to explore the role of Fateh Garden in the mental health recovery of users during the pandemic.

### 3 Methods

#### 3.1 Measures

We employed a modified Warwick-Edinburgh Mental Well-being Scale (WEMWBS) to measure the impact of Fateh Garden on users' mental health. WEMWBS covers the majority of positive mental health concepts and contains positively worded items regarding different aspects (Tennant et al., 2007). At Fateh Garden, participants were asked to rate fourteen items on a 1–5 Likert scale about their mental health (thoughts and feelings). Among the items on this questionnaire are those that measure optimism, perceptions of usefulness, confidence, social interaction, energy, and interest in new activities. Scores were calculated by adding responses for each item answered (range: 14–70) (Wood et al., 2017). Higher scores indicate greater mental wellbeing based on the weighted sum score (Appelqvist-Schmidlechner et al., 2020). The permission to use the WEMWBS was received from Warwick Medical School.

A minimum of 50 participants are required as a rule of thumb in WEMWBS (Taggart et al., 2016). Therefore, seventy-six users were recruited for this study. Respondents were asked to rate the impact of Fateh Garden on their mental health from 1 (none of the time) to 5 (all of the time) on the following items: "Being in Fateh Garden helps me to feel optimistic about the future", "Being in Fateh Garden helps me to feel useful", "Being in Fateh Garden helps me to feel relaxed", "Being in Fateh Garden helps me to feel interested in other people", "Being in Fateh Garden helps me to have the energy to spare", "Being in Fateh Garden helps me to deal with problems well", "Being in Fateh Garden helps me to think clearly", "Being in Fateh Garden helps me to feel good about myself", "Being in Fateh Garden helps me to feel close to other people", "Being in Fateh Garden helps me to feel confident", "Being in Fateh Garden helps me to be able to make up my own mind about things", "Being in Fateh Garden helps me to feel loved", "Being in Fateh Garden helps me to feel interested in new things" and "Being in Fateh Garden helps me to feel cheerful". Moreover, fifty-seven semi-structured interviews composed of 27 males and 30 females were conducted with Fateh Garden users. Among those interviewed were 3 children (under 15 years of age), 14 adolescents (15–20 years old), 28 youths (20–35 years old), 9

middle-aged people (35–60 years old), and 3 elderly people (over 60 years old), and they were composed of 27 males (47.4%) and 30 females (52.6%) overall.

### 3.2 Exploring Fateh Garden

According to the 2016 census, the city of Karaj, located in Alborz Province, has a population of 1,592,492 people, the fourth most populous city in Iran (Statistical Center of Iran, 2018). According to the Head of Landscape and Green Space Organization of Karaj Municipality (2020), there are 243 parks in Karaj. Fateh Garden is the second largest park in Karaj, with an area of 15 ha. Before turning into an urban park in 2006, this place had been used as an orchard since 1963. Fateh Garden is also one of the registered national heritages of Iran as one of the gardens of Jahanshahr (The Ministry of Cultural Heritage, Tourism and Handicrafts, 2006).

We selected Fateh Garden because this park is at the top of Karaj urban parks in terms of the number of photos and comments on social media such as Instagram and online tools such as Google Maps. The location of Fateh Garden in Karaj facilitates the access of the residents of the adjacent areas to it. Moreover, many entrances to the park from the streets and alleys and the possibility of parking cars on the side of the street have made it easy for visitors to access this park. Figure 1 shows the location of Fateh Garden in Karaj.

## 4 Results and Discussion

Concerning the mean scores of SWEMWBS, positive mental health was associated with gender, age, marital and employment status, and educational level (Table 1). According to Table 1, 46% of the respondents were male, and 54% were female. Furthermore, 33% were married, and 67% were single. The highest frequency of their age was between 20 and 29 years, with 30% of the total. Moreover, regarding the educational level, people with bachelor's degrees accounted for the most significant number, with 31% of the total. As for the employment status, employed people were the largest, with 33% of the total.

The provisional population means score norms for WEMWBS across different socio-demographic groups is 50.7 with a 95% confidence interval of 50.3–51.1 (Stewart-Brown & Janmohamed, 2008). The mean score in this study is 52.12 (Table 2), which is higher than the mean score norms for WEMWBS and shows the high impact of Fateh Garden in improving the mental health of its users.

A Pearson's correlation analysis was conducted to determine whether positive mental health was correlated with the age, gender, educational level, marital and employment status of Fateh Garden's users. The results of the analysis indicated that positive mental health was significantly and positively correlated with the age, marital and employment status of Fateh Garden's users (Table 3). It seems that Fateh



**Fig. 1** A picture of Fateh Garden (*Source* Photo taken by the authors)

Garden has been more effective in improving the mental health of elderly users. Moreover, married users have experienced higher mental health compared to single ones in Fateh Garden. Furthermore, the impact of Fateh Garden in improving the mental health of retired users has been more than that of working people and students.

Moreover, a Pearson's correlation analysis was conducted to determine whether fourteen items of positive mental health were correlated with the age, gender, educational level, marital and employment status of Fateh Garden's users (Table 4). The analysis results indicated that 'interest in new activities' was significantly and negatively correlated with the educational level of Fateh Garden's users. This means that users with lower education are more willing to do new activities. Furthermore, 'feeling loved' and 'having the energy to spare' were significantly and positively correlated with Fateh Garden's users' employment status and age. This means that users who are old and retired feel more loved and have more energy to spare. Moreover, 'making up my mind about things', 'feeling confident', and 'feeling interested in other people' were significantly and positively correlated with Fateh Garden's users' marital and employment status and age. This means that married, old, and retired users feel more confident and interested in other people and can make up their minds about things better. In addition, 'feeling close to other people' was significantly and

**Table 1** The number of samples in different sociodemographic groups

Variable	n	Percent
<b>Gender</b>	76	100
Male	35	46
Female	41	54
<b>Age</b>	76	100
19 years or younger	16	21
20–29	23	30
30–39	11	14.5
40–49	6	8
50–59	9	12
60 years or older	11	14.5
<b>Educational level</b>	76	100
Comprehensive school	15	20
Secondary education	15	20
Associate degree	2	3
Bachelor's degree	24	31
Master's degree	19	25
Doctorate	1	1
<b>Marital status</b>	76	100
Married	25	33
Single	51	67
<b>Employment status</b>	76	100
Studying	29	38
Employment	36	47
Retirement	11	15

**Table 2** Some descriptive statistics of the samples

N	76
Mean	52.12
Median	53.00
Mode	55
Std. deviation	11.634

**Table 3** The correlations between the positive mental health and the age, marital, and employment status of Fateh Garden's users (n = 76)

	Age	Marital status	Employment status
Positive mental health	0.275*	0.330**	0.341**

\* Correlation is significant at the 0.05 level (2-tailed)

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



positively correlated with gender, marital and employment status, and the age of Fateh Garden's users. This means that users who are male, married, old, and retired feel closer to other people (see Fig. 2).

Furthermore, 'feeling good about myself' was significantly and positively correlated with the employment status of Fateh Garden's users. This means that users who are retired feel better about themselves. Additionally, 'dealing with problems well' was significantly and positively correlated with Fateh Garden's users' marital and employment status. This means that users who are married and retired feel better about themselves. Finally, 'perceptions of usefulness' was significantly and positively correlated with the marital status of Fateh Garden's users. This means that users who are married feel more valuable.

The present study aimed to investigate the relationship between Fateh Garden and the mental health of its users. It is important for public health and urban planning to take into account the associations between parks and mental health. To make public park planning and policy more effective, research should go beyond describing the general benefits of parks to distilling the qualities that can have the greatest impact on individual well-being (Wood et al., 2017). Even though most urban parks are effective at improving mental health in urban environments, some indications suggest that they may differ depending on the target group and geographical location (World Health Organization, 2021). According to the results, Fateh Garden significantly improves its users' mental health. Furthermore, Fateh Garden's users had significantly higher levels of positive mental health when they were older, married, and retired. This result is partly consistent with previous studies (i.e., Annerstedt et al., 2012; Appelqvist-Schmidlechner et al., 2020; Astell-Burt et al., 2014; Callaghan et al., 2020; Francis et al., 2012).

On the other hand, what was mentioned more than anything in the interviews were the meanings that were enjoyable for the users and the associations of people, objects, times, activities, and events that reminded the users of their satisfaction. For many users, Fateh Garden feels like home: '*Fateh Garden gives me a sense of home and peace*' [Sahar, a 32-year-old woman]. The ideal place in Iranian culture is paradise, which people wish to achieve in another world. For some users, Fateh Garden is reminiscent of paradise: '*Fateh Garden is always beautiful, but in spring, it is paradise*' [Ahmed, a 21-year-old man]. The main feature of paradise is beauty as one of the environmental features. This beauty doubles in some seasons, such as spring and autumn, due to the color of the trees.

However, the most important keyword in describing Fateh Garden by users is 'peaceful'. In this regard, the presence of tall and beautiful trees that give a special beauty to Fateh Garden in the four seasons of the year plays a decisive role. This garden also allows people to forget the problems of their lives and experience tranquility, even for a few hours: '*Fateh Garden has a special sense of calm and makes you take a few moments away from worries and problems*' [Mojgan, a 27-year-old woman]. Moreover, the existence of suitable facilities for users means that they do not need to go outside the park to meet their needs and desires and spend hours in this park without worries.



**Table 4** The correlations between the items of positive mental health and the age, marital, and employment status of Fatch Garden’s users (n = 76)

	Feeling cheerful	Interest in new activities	Feeling loved	Making up mind	Feeling confident	Close to other people	Good about myself	Thinking clearly	Dealing with problems well	Having energy	Interested in people	Feeling relaxed	Usefulness	Feeling optimism
Educational level	-0.111	-0.245*	-0.117	-0.123	-0.120	-0.078	-0.048	-0.133	0.062	-0.037	0.068	-0.078	-0.191	-0.005
Marital status	0.061	0.209	0.177	0.317**	0.284*	0.280*	0.028	0.009	0.279*	0.168	0.432**	0.109	0.254*	0.133
Gender	0.104	0.071	0.046	0.038	0.096	0.269*	0.061	0.012	0.071	0.169	0.065	0.017	0.088	0.003
Employment status	0.082	0.217	0.301**	0.332**	0.362**	0.426**	0.288*	0.036	0.312**	0.229*	0.462**	0.169	0.195	0.164
Age	0.117	0.165	0.250*	0.237*	0.355**	0.428**	0.212	-0.082	0.225	0.233*	0.551**	0.167	0.202	0.130

\* Correlation is significant at the 0.05 level (2-tailed)

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



**Fig. 2** A picture of Fateh Garden users (Source Photo taken by the authors)

Another very important issue is the feeling of safety and security that allows users to visit this urban park with ease. Users generally feel very safe in Fateh Garden. One of the reasons for this feeling is the location of Fateh Garden in one of the best urban and economic areas of Karaj (Jahanshahr neighbourhood) and also the possibility of accessing it from several residential streets and alleys that are connected to the main streets. It is also surrounded in the western part by walls of houses and residential alleys. This situation has caused many users to look at the Fateh Garden as a refuge and a place to be safe: *'The Fateh Garden is a place where you can take refuge from the hustle and bustle of the city'* [Fereshteh, a 33-year-old woman]. Due to this peace and feeling of security, Fateh Garden has become a place to relieve sadness and fatigue: *'Looking at the trees of the Fateh Garden will take away all my sorrow'*, *'When I feel sad, nothing makes me feel better like walking with a friend in this park'* [Somayeh, a 34-year-old woman, Hamid, a 30-year-old man]. This feature of Fateh Garden as a warm and invigorating place has caused people to look for sports activities and exciting events to instill a sense of hope and vitality. For some people, like 30-year-old Ketayoun, the trees of Fateh Garden act as their close friends and they can talk to these trees and get peace, and for some people, like 25-year-old Razieh, when they need to be alone, they can sit near the trees and talk to themselves.

## 5 Concluding Remarks

This study confirmed a generally beneficial relationship between Fateh Garden and the mental health of its users, especially during the pandemic. As one of Karaj's most popular urban parks, Fateh Garden could play a critical role in relieving the stress and worries of Karaj citizens during the epidemic. Users who were forced to stay at home due to the lockdown and their social interactions were severely reduced, found better mental health by visiting Fateh Garden and engaging in activities such as walking, exercising, playing chess and talking with friends. The relationship between Fateh Garden and mental health seems complex, with some affecting factors, such as gender, age, educational level, employment, and marital status. Although Fateh Garden has effectively increased the mental health of older, retired, and married users, no association was found between the positive mental health and gender and educational level of Fateh Garden's users. Furthermore, Fateh Garden has been effective in some items of positive mental health such as 'interest in new activities', 'feeling loved', 'having the energy to spare', 'making up my mind about things', 'feeling confident', 'feeling interested in other people', 'feeling close to other people', 'feeling good about myself', 'dealing with problems well', and 'perceptions of usefulness'. Moreover, the present study shows that people choose a park that reminds them of their favorite components and gives them peace of mind.

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