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Article

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Research Article

COVID-19 Bringing Cairenes Back to their Streets

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ABSTRACT

In a city of high vehicular traffic like Cairo, in some neighborhoods simple social activities were usually practiced in enclosed places. The outbreak of the Covid-19 pandemic has somehow turned the corner in the street life of Cairo as the livability of the urban public spaces enhanced. Residents of Cairo were widely seen using every well-maintained public space they could find. This paper aims to explore the emerging questions concerning Covid-19 and its effect on the city. How did Covid-19 help in bringing residents of Cairo back to the streets? What kind of street activities were introduced during the pandemic and what are the reasons behind them? What are the effects of these novel activities on both the people and the city? Basing on relevant international literature, this research will provide a comparative analysis between urban public life in the streets of Cairo before and during the pandemic. The research adopts a case study qualitative approach for a selected neighborhood in Cairo. It relies on observations, focus group discussions and in-depth interviews with residents from the district. Findings indicate that enclosed commercial and recreational facilities, and vehicular domination in the streets have taken life away from the city before the lockdown period. During the pandemic people have acquired new habits which gave life back to the streets. The flow of the main social stream has a very important role in shaping the street life. As a result of these new circumstances the physical and psychological health of the residents were maintained, new social ties were created and their sense of belonging has been enhanced.

1. Introduction

Cities occupy an extremely small percentage of the earth's surface area, yet they hold about half of the world's population. This population inhabiting cities is expected to double by the year 2050, making urbanization one of the 21st century's most transformative trends (Burdett & Rode, 2011), which encourages the continuous studies conducted on the built environment in cities. The built environment is the man made surroundings that provide the settings for the residents' daily life, work and recreation. It has direct impact on their lives, ranging from its buildings to the streets and green areas, and to the neighbourhoods and cities (Streimikiene, 2014). It affects their senses, emotions, physical activity and community participation (Butterworth, 2000). Jan Gehl (2010) advises against the usual sequence of planning which prioritizes buildings over space and life. He calls for working with the human dimension, starting from life and space then planning for buildings. This is important because the architectural design and the physical settings of a building or a

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neighborhood may affect how people using them behave. Architecture's main objective is to design buildings and environments where human potential thrives (Zifferblatt, 1972).

An important component in the built environment of a neighborhood is its public spaces. In The dictionary of human geography, Gregory et al. (2009) define public spaces as, “the Space to which all citizens have a right of access ... The archetypical public space is the plaza, street or park, the ‘traditional public forum’ characterized by the US Supreme Court as those places that have immemorably been used for public assembly, debate and informed dissent.”

While the UN-HABITAT (2012) stated that “A healthy city is one in which citizens have access to basic infrastructure ... where women and children can walk without fear, and where people can enjoy parks, squares, and other public spaces in safety and comfort.”

Gehl (2002) stressed on the importance of having diverse urban public spaces, spaces that stimulate activities and human interactions. Urban spaces are important in order to have a social interactive environment; Jacobs (1961) explained that a city must have public spaces where people can come, stay and interact together and that these spaces should be inclusive rather than exclusive. These public spaces should be able to accommodate different social groups and help bring them together (Jacobs & Appleyard, 1987).

The presence of urban spaces which are close, accessible and can afford to accommodate different activities acts as a catalyst for social interaction (Mouelhi, 2014). It helps people gain social skills, communicate with different groups and makes a collective body of society (Asef, 2012). Jacobs & Appleyard (1987) have argued that diverse social groups living in big cities nowadays try to avoid contact with each other out of fear and they would rather socialize in their own private worlds and communities. This stance has been forced to change in the year 2020 due to a new reality that the world has faced.

Covid-19 hit the world in the beginning of the year 2020, and these classical definitions of public spaces are facing erosions and challenges. Due to safety precautions and the fear of infection, the traditional approaches in dealing with public spaces in the city is being changed (Honey-Rosés et al., 2020; Roberts, 2020). As a start, open public spaces are becoming a scarce resource for people to breath and escape being locked down at home. However, the dense concentration of people in public spaces no longer assures livelihood and vitality of the space, rather high presence of people in public spaces may cause health hazards (Honey-Rosés et al., 2020; Jasiński, 2020; Sepe, 2021). Now, an abandoned public space is more safe than a crowded one.

Internationally, the term public space is now acquainted with terms like social distancing, limiting the number of participants, and always wearing facemasks. However, it is still under research how public spaces will be after the pandemic and how Covid-19 will change people's relationship with public spaces (Sepe, 2021).

Covid-19 forced countries and their citizens all over the world to change their life style especially in dealing with urban public spaces. People became more enthusiastic in choosing open public spaces over enclosed ones, especially with the lockdown regulations set by authorities that made most indoor places being prohibited for use. These private worlds and communities got disrupted, people from different classes again resorted to using the public spaces around their homes as the only vent available. There are some gains from this situation however, for in an optimistic sense some argue that Covid-19 provides an opportunity for designers and city planners to design public spaces in a way that makes way for pedestrians and cyclists which will move cities closer to being green cities (Nieuwenhuijsen, 2020; Alter et al., 2020). Also, the novel idea about the importance of social distancing will result in a redesign for pavements, sidewalks, pedestrian crossings so that all can be wider (Alter, 2020). Green spaces design might need to be changed in type and distribution and it will require assessment to decide where the users will be able to exercise in such green spaces while maintaining their social distance, this might change how cities as a whole are designed (Honey-roses et al., 2020).

Egypt, as the rest of the world, was hit by Covid-19 in 2020, with its first case being registered in February it started its lockdown procedures by mid-March. Its cities may have reacted differently to the lockdown restrictions, but Cairo like some places around the world has seen a surge in its people's use of their public spaces, which to fairly describe it, was unprecedented. As a phenomenon, it needed studying, as Cairo is more known for its vehicles' traffic rather than its pedestrian's one. The published research on Cairo's public life in general is scarce and is even more when it comes to studying its conditions through the Covid-19 lockdown era. To narrow things down, this paper will use a case study approach to observe and discuss how the residents of a neighborhood in Cairo responded to Covid – 19, during the lockdown and curfew phases. Particularly, this paper will focus on the changes happening in their use of their surrounding public space as compared to before the pandemic. The research aims to understand the reasons behind this change in the behavior of the residents, it will also analyze different uses of the public spaces and extract reasons for it. The paper will finally propose future implications to help in adopting with the change occurring the public spaces. The data collection will include observations, a focus study group and semi structured interviews.

2. Cairene public spaces

Cairo is a megacity that houses about 10 million residents (CAPMAS, 2020), As an old city, Cairo has witnessed several phases of development and constant addition of neighborhoods following different approaches for development; hence it does not have a specific urban fabric (Masoumi et al., 2019). The east part of Cairo holds rather new neighborhood built from the beginning of the twentieth century with the urban fabric mixed between radial as well as grid iron fabrics (Dobrowolska & Dobrowolski, 2006). The transformation in the design of Cairo city and its neighborhoods has lately given priority to vehicles circulation while neglecting the pedestrian one (Sims, 2012). Accordingly, public spaces that people can use are not well taken care of. The pavements are narrow, full of obstacles, almost always non continuous, they require maintenance and additional improvement. Shops, companies and apartment buildings are free to change the pavement's material in front of their property as they like, which often times result in the use of slippery materials making walking a hazardous exercise, especially for the elders. Also, entrances to underground car parking obstruct the flow of the pavement with no proper ramps at their intersections with the pavement. The curb to the pavement is usually 20–50 cm high. Pedestrian crossings are rare and mostly present in the main squares and intersections which makes crossing the streets sometimes life endangering for pedestrians.

As for public parks, they have been ignored by many sectors of Cairo's society. Public parks are even nowadays rare while gardens and green areas between buildings do not attract the middle and upper income groups anymore. Lower social groups are the main users of such public spaces but they lack proper governmental maintenance and basic furniture and amenities (Gertel, 2009; Wilson, 2011). The image of public life in which different groups of people walk together, interact, buy, sell or socialize together rarely exists in Cairo anymore. (Abaza, 2006; Amin, 1997).

Consequently, Cairo nowadays faces a major problem of social segregation which affects the built environment. The privatization of recreational facilities makes them accessible to only a certain group and class of people excluding all other classes. Such controlled spaces for leisure and recreation, i.e commercial spaces and shopping malls, are the most preferred by the upper middle class and the former elite groups (Abaza, 2006), which he described as “Cities within Cities” they are places where people could spend their whole day without having to emerge to the outside world at all. The few remaining parks that represent the lungs of Cairo are gated with entry fees again afforded by a selected few making their use limited to such groups and not the real public.

3. Research area and methods

When Covid-19 hit Egypt and it was evident that certain measures were needed to fight it back, and although Egypt did not go through a full closure like some other countries, however the government decisions were strict and plenty. Most indoor spaces were

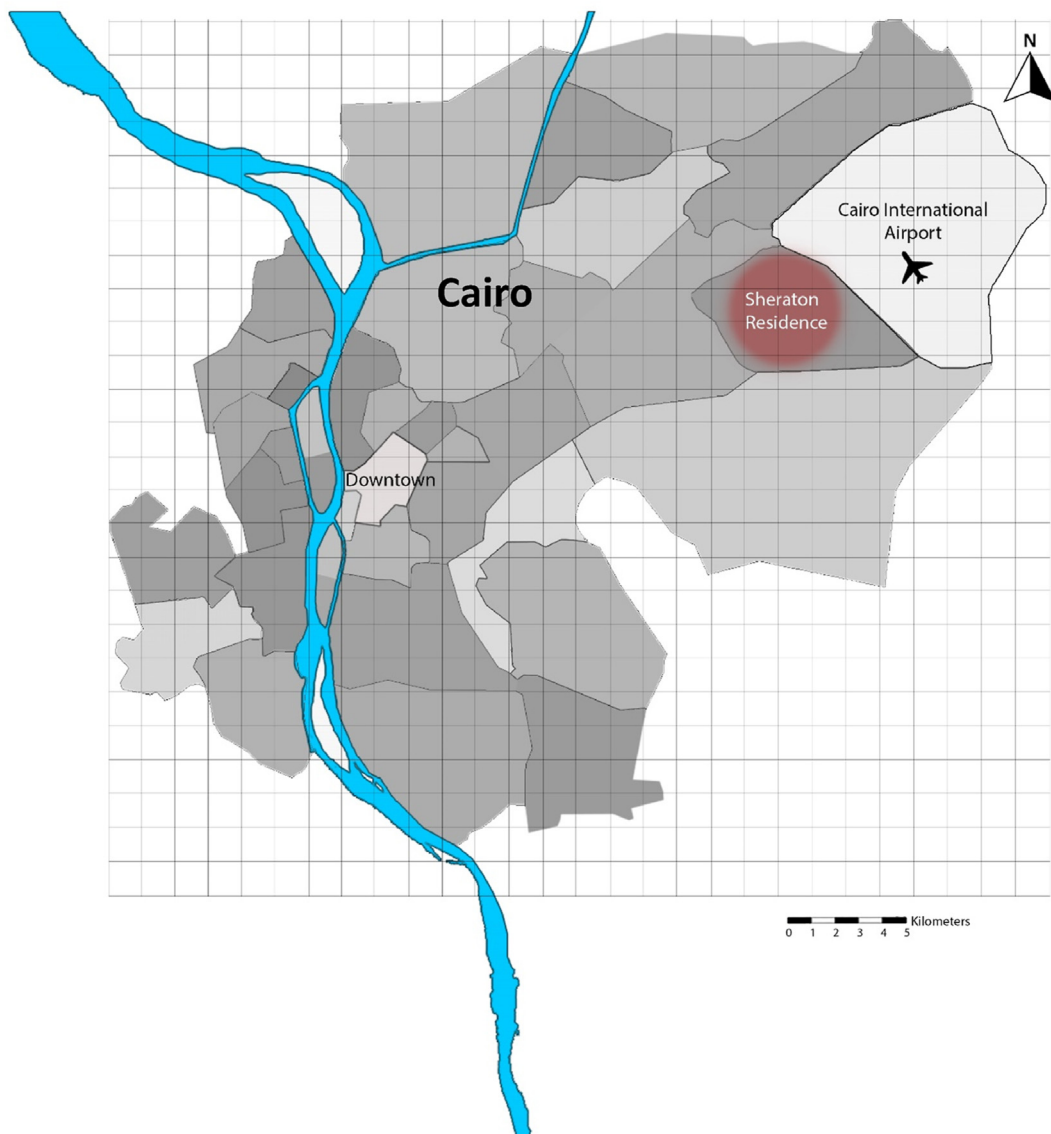


Fig. 1. Map showing the location of Sheraton residence in Cairo, (source: adopted by the author from (Cairo districts map, December de 2020)).

closed, this included but was not limited to; schools, universities, places of worship, dine in restaurants, gyms, cinemas, theatres, pubs and the likes. Some outdoor spaces that might include group gatherings were closed as well, like clubs, public gardens and beaches. Places that were allowed to open like shops and malls were only allowed to do till 5 p.m. Places of work was advised to turn to working from home wherever possible, if not then reducing the work force to 50% in rotational shifts. Wearing face masks was mandatory indoors and in transportation with fines for failing to abide by this rule. A curfew was instated from 7 p.m. to 6 a.m., as the lockdown measures started to ease, the curfew eased as well; first 8pm then 10 p.m. and finally 12 a.m. all till 6 a.m. still. The government took some measures in order to try to ease its financial impact on the people, like postponing the payments of all credits for six months, bonuses for government employees and waiving of some fees and taxes (Egyptian Cabinet). However, the presence in open spaces was not restricted or limited to certain numbers, i.e. people gathering in or using public spaces in any way or number was not considered breaking any rules, which represented the only vent for Egyptians who wanted to go out or meet others without being in homes or break any lockdown rules. Most of these measures ended by October as it was believed the first wave of the infections was over.

To investigate this observed flourishing in the street life and the use of public spaces, this study relies on a **case-study** approach (Groat & Wang, 2013; Yin, 2003). The selected neighborhood of Sheraton residencies in east Cairo was the focus of this study during the lock down caused by the outbreak of the Covid-19 pandemic from the months of March 2020 to July 2020. Sheraton residencies is one of the old neighborhoods of Cairo that lies on the east side of the city as shown in Fig. 1. It is the first neighborhood that meets a visitor arriving at Cairo international airport. It has a grid urban fabric, with most streets designed with a central longitudinal green area surrounded by buildings from three to four sides. The neighborhood houses different housing types, it is mainly consisted of middle class up to higher class housing types. It has a high occupancy rate and houses one private club, one governmental youth center, a higher education academy and two shopping malls. It also houses a variety of shops, banks, firms, supermarkets, restaurants and coffee shops. Though it is mainly a residential neighborhood and it should be normal to see residents walking around all the time yet, prior knowledge of the neighborhood by the authors can confirm that it was not the case.

The case study adopted a qualitative approach where the researcher explores an issue in a bounded system through detailed in-depth data collection (Creswell, 2007). Data Collection was conducted between the months from March 2020 till June 2020. To achieve triangulation (Groat & Wang, 2013), it relied on multiple methods of data collection that are; observations, focused group discussions and open ended semi structured interviews.

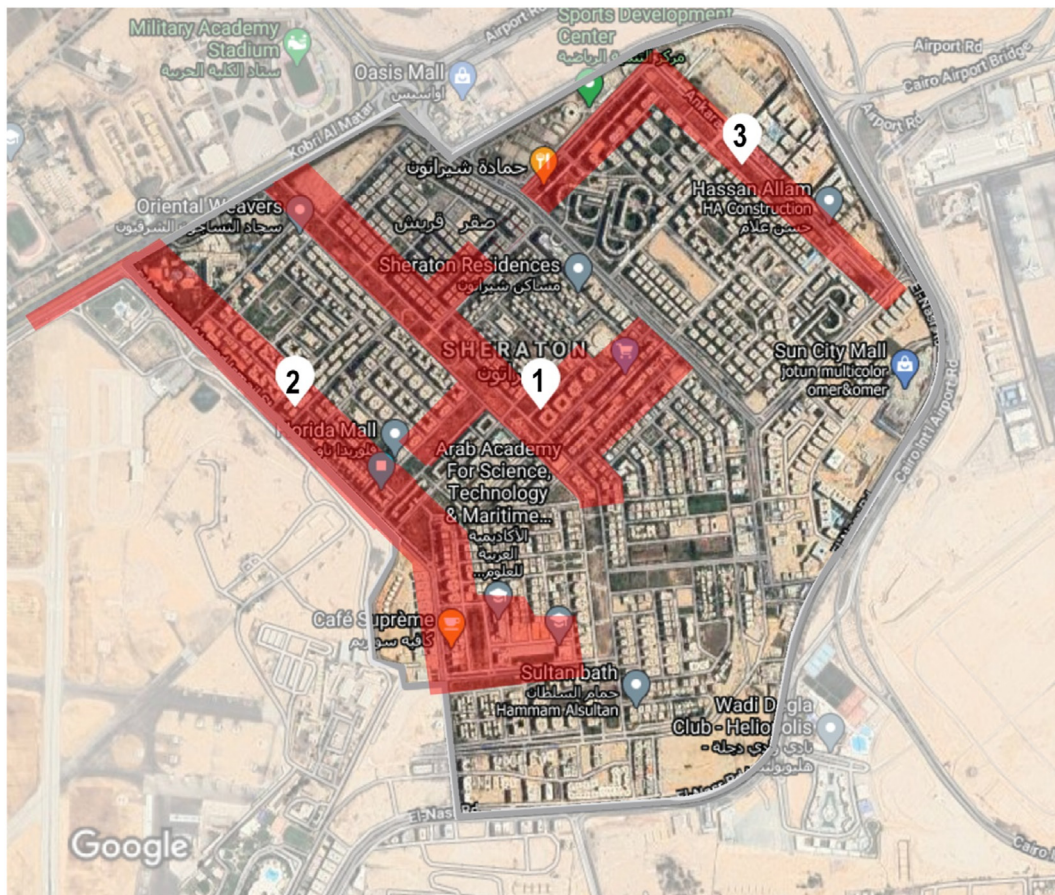


Fig. 2. Map Showing the location of the observation zones (source: adopted by the author from (Google earth, 2020)).

Sessions observations and field documentation were conducted from the months of March to June 2020 by the three authors in different parts of the neighborhood. The sessions of observations were done on different days of the week including weekends starting from the time right before the curfew starts and until midnight as walking around the neighborhood was allowed. Notes were taken to document the new activities occurring, types and ages of users, numbers during different hours. Annotated sketches were used instead of photographs to keep the anonymity of the users. It was not possible to find an updated map of the neighborhood so we had to rely on Google maps for the most recent one as shown in Fig. 2.

Observations took place in three zones as shown in Fig. 2, where zone 1 represents the previous spine of the neighborhood, that used to have the longest continuous uninterrupted pavement where most walking and jogging activities took place before it was divided by several U-turns without proper handling of pedestrians path as shown in Fig. 3 which ended any possibility of the residents using it for physical activities.

Zone 2 of the observations starts with the air force base which has the relatively best maintained pavement in the neighborhood. Zone 3 covered what represents an open food court; this street has cafes, restaurants and food booths on all its ground floors. Most pavements in the neighborhood may require maintenance and additional improvement as shown in the following Figs. 4 and 5.

Moreover, a **focus group discussion** was conducted with a group of twelve students in their senior year in the architectural department in the higher education academy located in the neighborhood. Their age range is 20–23, they are residents of the neighborhood and share the same interest in urban design. The discussion was moderated by one of the authors to know their observations about the changes around them in their street's life, how they are reacting and adjusting to the new situation.

Open ended semi-structured interviews were conducted with ten residents of the neighborhood. Face to face interviews provide the social cues needed to add another layer of meaning to the words being said (Opdenakker, 2006). They also help overcome the gender and age gaps as the wordings of the interview can be changed according to each interviewee in order to allow him/her to relate to the topics being discussed (Barriball & While, 1994) The selection of interview participants relied on a combined convenience and snowball sampling approach. The sample included a diversity of gender, profession and age groups. The interviews were conducted over the phone and lasted between 30 and 40 min. Interviews were recorded after the permission of the interviewees and later translated and transcribed for analysis. The main purpose of the interview was to compare the relation of participants with the urban space before and during the pandemic. The structure of the interview's question started with the ice breaking questions obtaining the general background information about the participants then it included questions about their relation with their home zone area, their perception of the public space and how they use it. Questions were all repeated three times on two different time frames which are (Before the lockdown and during the lockdown). In addition to the answers of the focused group, data saturation was reached by this sample of interviewees (Guest et al., 2006) and hence there was no need to conduct more interviews.

Qualitative content analysis would require a subjective interpretation of the text beforehand through coding and themes identification (Hsieh & Shannon, 2005). Hence for the data analysis, the existing text was read and re-read several times to gain familiarity with the participants' answers. Themes that could provide elements of answers to the research questions were extracted from both the



Fig. 3. Showing the now interrupted pavement of the main spine of the neighborhood (Source: the authors).



Fig. 4. Showing a sample of the pavements of most of Sheraton district (source: the authors).



Fig. 5. Showing the leveled and interrupted side walk on the left and the narrow sidewalk interrupted by the plantation on the right of Zone 2 (source: the authors).

focused group discussions and the interviews answers and were all compared by the notes and sketches collected through the observation phase.

4. Results

4.1. Death of the street life in cairo before the pandemic

Life before Covid – 19 in Cairo meant very limited pedestrian activity to most of Cairenes. “*Vehicles always take the priority*”, many of the participants stated this phrase. It was like an embedded thought that the participants had, that it would be easier to cruise the streets in Cairo by car than to navigate it by foot. The following section will discuss four reasons for the avoidance of the street life as the participants of the interviews expressed:

- Following the social stream of not walking in the streets was the **first reason** the participants mentioned. “*No one has ever taught us the idea of walking in the streets*”, one participant explained. “*We were raised up thinking that we should go everywhere by car*”, and another participant elaborated. Moreover, vehicular priority in the streets to the passer-by is clearly evident in the lack of pedestrian street crossing, speedy vehicles even in local streets and vehicular appropriation of the street and the sidewalks for parking. “*In our streets, cars are always more important than pedestrians*”, participants confirmed.

- **The second reason**, the nonexistence of decent well defined sidewalks where people can walk safely away from the vehicular threat, noise and pollution is among the reasons the participants stated for avoiding the street. As discussed above in Figs. 3–5, many sidewalks are not designed well in a way that would ease pedestrian navigation and are found in bad condition. Many of them are narrow, ill-maintained, and leveled with no consideration for elderly or people in wheelchairs. Sidewalks are often interrupted with plantation or a light feature or an advertisement post or even a trash bin that hinders smooth pedestrian flow (Maarouf, El-Alfy, 2012).

However, even these sidewalks, that are not functioning well as pedestrian pathways, are often appropriated by vehicular parking or by commercial activities. These forms of appropriation vary from street vending and ground floor shops extending their activities on the side walk beside them. All of this has in turn lead the pedestrians to transfer their movement to the road instead of the sidewalk. The width and the smooth leveling of the road eases the movement of elderly, people with strollers or wheel chairs. It is a very common phenomenon in Cairo's streets to find much of the pedestrian movement to be done on the road rather than on the side walk, forcing the people and the vehicles to navigate around each other in a very unorganized and unsafe way like how it was previously mentioned by Eissa and Khalil (2013, pp. 105–120), Ghanem et al. (2018), Hassan (2019), Eissa et al. (2019).

- **The third reason** discussed by the participants is the lack of their perceived safety while navigating the streets. Participants discussed several reasons behind that. As discussed above, the phenomenon of the shared street flow between the pedestrian and the vehicles makes it very unsafe for pedestrians to freely walk in the streets. Also some of them have mentioned that they fear of harassment and theft due to previous incidents that may have happened to them or to people around them. Participants even mentioned that they avoided the streets because of their fear of stray dogs that particularly take over the streets with low pedestrian presence. Moreover, with the avoidance of navigation the streets on foot came the avoidance of using or practicing activities in the public spaces in general (Maarouf and El-Alfy (2012), Mahrous et al. (2018).
- **The fourth reason**, participants have confirmed what has been discussed in the literature above. Forms of public and social life have been shifted to the more controlled and exclusive spaces leaving public spaces partially abandoned. Participants stated that they would prefer to socialize in their private clubs, enclosed food complexes, malls and other private spaces than to socialize in open urban spaces. They calmly withdrew themselves from using the streets and public spaces and left the streets for vehicular activities (Amin, 1997; Abaza, 2006; Wanas, Moustafa, & Murshed, 2014; Yasser et al., 2018).

As a primary aim of this paper is to shed the light on the urban street life in Cairo during the lockdown and try to understand why people returned back to the urban life in Cairo's streets.

The following section will try to portrait the street life in Cairo during the lockdown and discuss the reasons that brought people back to using the streets. This is done through the analysis of the information extracted from the observations, the interviews and the focus groups. The paper will comparatively relate it to the reasons why people abandoned the streets discussed above.

4.2. Back to life during the lockdown period

On daily basis and as curfew hours started approaching, the streets of Sheraton residences, like many neighbourhoods of Cairo, were full of life from pedestrians who even practiced activities novel to them and to the streets of the neighborhood. While studies have concluded that only older adults had a high share of moving around for recreation and social activities (Fatmi, 2020), the situation in Cairo; and specifically, Sheraton residencies was different.

The research will give a portrayal of the new witnessed street life and use of public spaces and forms of adaptation that happened. For example, Walking, jogging and dog walking became very familiar; people did this alone, friends or couples and very commonly as whole families (Fig. 6). This pavement marked as observation zone 2 in Fig. 6 is the longest continuous pavement in the neighborhood. It is usually where resident show wanted to practice such activities would go. However, before the pandemic at any given time the number of



Fig. 6. Sketch illustrating people's activities (walking, jogging, dog walking) on the pavement of Almazra Air Force Base.

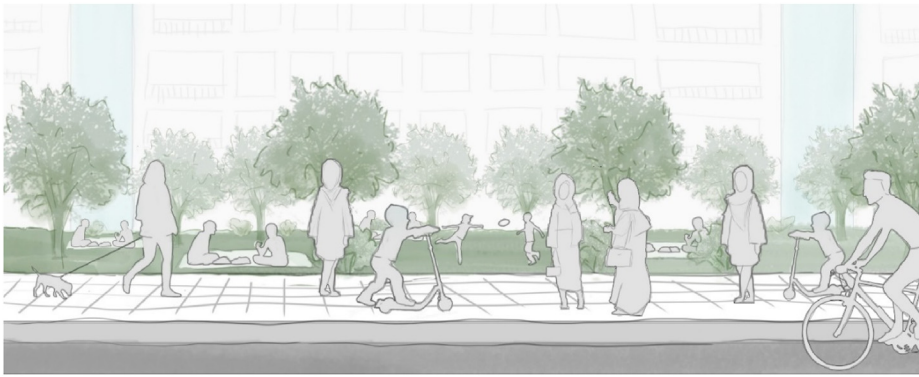


Fig. 7. Residents novel use of their nearby green areas (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

users used to range between four to eight users. This number has increased to range between 60 and 70 during curfew hours. Passing by this novel activity, one would think there is a running event taking place.^{1, 2}

The green areas in the neighborhood lack nearly any furniture and amenities and were rarely used by the residents, if not for two or three maybe at any given time. Again, the numbers increased to tens and has witnessed the presence of different social groups, while it was previously used by lower income groups Fig. 7. It became a regular sight, to see all sorts of social groups sharing such spaces, as private clubs were closed till the beginning of August. Different age groups were present and activities included, but were not limited to; kite running, ball playing, walking dogs, eating and drinking, board games and kids using their bicycles and scooters.

It was widely spotted to see people using their car trunks as seating while extending portable chairs and tables right beside their car, playing cards and chess. They brought along their food, water and coffee thermos. These settings would sometimes accommodate four or more people sitting together (Fig. 8).

Also the foldable chairs and tables phenomena was spotted in apartment building entrances where parents would sit together and children play in the safety of the car deserted streets (Fig. 9).

These activities continued through the whole time of the lockdown. The data collection however helped us understand the reasons behind such novel phenomenon to the streets of the neighborhood. Interestingly, the reasons for the appropriation of the street during the lockdown are also the main four reasons discussed in the reasons for the avoidance of the streets before the lockdown. These reasons are: people going with the social stream, perceived safety, the physical characteristics of the streets, and the absence of any other alternative for going out.

- **First**, and rather the most effective is going with the social stream of practicing activities in the streets. “*People come where people go*” as the Scandinavian proverb that Gehl (2010) said. Also, in one of his Ted Talks, Jeff Speck (2020) said that what encourages people to walk down the street is seeing signs of humanity, knowing that there are other people using these streets.

Most of the participants stated that they were encouraged to use the streets when they saw others practicing activities and filling the streets with life during the quarantine. People loved to perform similar activities in the company of each other in many streets of the neighborhood. “*I even bought a new bike to cycle with my friends during the curfew hours*”, one participant elaborated. “*I started running in the streets when I saw people doing it, I just joined along*” said another participant. This sequential relationship is explained in (Fig. 10).

As a result, and with the increase in the number of people present in the streets, the sense of perceived safety increased and people became more comfortable using the streets. Especially during curfew hours when vehicle navigation was banned, this has in return left the road paved for pedestrians to move freely and safely in any place in the street. Moreover, the fact that all the commercial shops were closed left room for only the residents (and some visitors) to be present around their home range area. All of this has enhanced the sense of safety the participants had towards using the streets. “*I felt free and comfortable*”, one participant stated. Additionally, it was very common to see even children running, playing and cycling in the street under their parent’s supervision during the lock down period. The same children that used to play only in private clubs or gated play areas, out of their parent’s fear of the threats in the public urban spaces, are now spotted playing freely in their home range area.

- **Secondly**, many residents have also started to use more frequently the balconies at their home when they were forcefully on lockdown, as shown in (Fig. 11). That also had an effect on the perceived safety the participant felt when using the street. The presence of people in the urban spaces and in the balconies provided better surveillance on the street hence better perceived safety.

¹ Descriptive illustrations in Fig. (6)–(9) are used to assure anonymity of the participants being observed and for safety measures to the authors.

² It should be noted that in Cairo there were no governmental control over the crowd of people in open public spaces, social distancing and the number of participants present at a certain public area were left to the level of awareness and will of the participants.



Fig. 8. Forms of adaptation to the new circumstances practiced in the streets, people using their cars as seating's and extending on the street with portable tables.

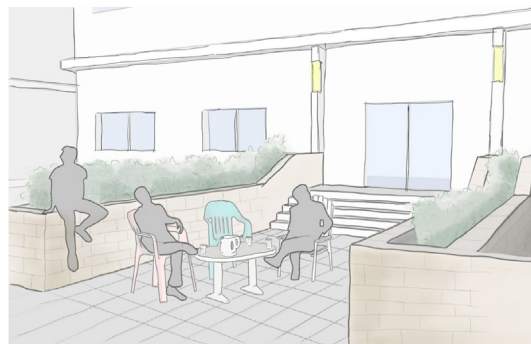


Fig. 9. Forms of adaptation to the new circumstances practiced in the streets, the use of foldable chairs and tables to sit in the public shared spaces.

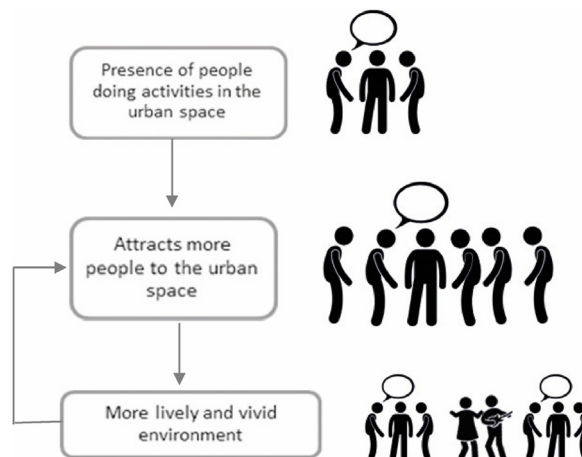


Fig. 10. A diagram representing the sequential relationship of the presence of people performing activities in the streets that in turn attracts more people to the streets.

Which is the passive surveillance that mixed use suburbs should provide, giving a sense of safety that might encourage women and other vulnerable people to use the street in different time of the day due to the presence of “eyes on the street” (Butterworth, 2000; Gehl, 2010)

- **Thirdly**, the absence of vehicular navigation has left room for people to practice their activities on the wide better maintained road rather than being limited by the boundaries of the often narrow, bad conditioned sidewalks. “We had the whole street for ourselves” one participant stated. This has also encouraged the flourishing of the novel activities mentioned, cycling for example was a novelty in the streets of the neighborhood that lacks the presence of bike lanes just like other Cairene neighborhoods. People started to feel safe enough that they bought bikes for themselves and their young ones as well and started cycling at night time in the neighborhood vehicle-free streets.



Fig. 11. The presence of people in balconies has in turn provided better surveillance to the street and better perceived safety.

- **Fourthly** and Last but not least, many participants have stated that the street was the only alternative they had. There was no other physical opportunity to perform any outdoor activities or meet any one outside their homes. The street was like their only gate way to the life outside.

Interestingly, this empirical research has revealed that the same main reasons for the avoidance of the street life before the lockdown are the same reasons for the appropriation of the streets during the pandemic (see Table 1)

Nevertheless, these activities have witnessed slight changes during the lockdown period. Participants who stated that they used to walk in the neighborhood streets often before the pandemic or even used to observe people using the streets have specifically stated that there was a change in the characteristics of this activity in four main aspects. These four aspects are the purpose of walking, the type and the number of users, the time of practicing the activity.

4.3. Changes in the street activities during the lockdown period

- **First aspect**, participants specifically stated that the purpose behind their walk has changed during the lockdown. They explained that they used to walk in the streets for functional purposes, especially in the commercial street. One participant stated that she loved to go grab her coffee on foot and on her way she would pass by the nearby stationary or bakery shops. However, during the forceful closure of all commercial and recreational activities due to the lockdown, people would now walk for the mere purpose of walking. Participants stated that they specifically went to places with good natural views and greenery to enjoy a breath of fresh air and see pleasant scenery. To them, the street was a place for healing and a place to fulfil their psychological need to go out.

In line with this, some participants stated that they would rather go to places with a lot of people in it just to enjoy the company of others from far away. They explained that.

“It was a very cheerful scenery; to see groups of people and families around laughing, playing or chatting. Keeping my distance, I loved to watch them from faraway”.

“I used to sit in my car behind the park where a lot of people usually go to. It was a good chance to see people while keeping my distance to stay safe”.

However, people's engagement with the urban space changed from active engagement to a more passive engagement. They would engage with nature and physical features more than engaging with other people. And urban spaces changed from being assembling vibrant spaces to places for detached groupings.

Moreover, with the closure of sport clubs and gyms, many participants referred to the streets and open public spaces as the only alternative to practice physical exercises. The street represented the perfect place to jog or walk, especially with the absence of vehicles after the curfew hours. “I needed to stay in shape, I had no option but to jog in the streets, that is something I have never done before.”

(Fig. 12) illustrates the change of the purpose of such a simple activity as walking from before to during the lock down period. Participants who used to walk in the streets before the lockdown stated that their walk was purely functional (to buy goods, or to reach a destination). However, they indicated that after the lockdown their need to walk in the street increased. They needed to walk in the streets to fulfil their psychological need to escape being locked inside the four walls on their homes. Participants also stated the importance of being in the streets and seeing other people even from far away for their social health and wellbeing. On the same line, others have stated that the street was the only alternative they had to meet their friends and socialize in real life rather than the virtual

Table 1

Correlating the reasons for avoiding the street life in Cairo before the lockdown to the reasons of appropriating the street during the lockdown.

		Before the lock down	During the lockdown
		Reasons for the avoidance of the street	Reasons for the appropriation of the streets
Intangible Reasons	Going with the social stream	<p>Going with the social stream of avoiding the streets</p> <p>"No one has ever taught us to walk in the streets"</p> <p>"We grew up thinking that using the car was our only contact with the streets"</p>	<p>Going with the social stream of appropriating the streets</p> <p>"there were a lot of people, so you felt it was the normal thing to do, no one would look at me strangely"</p> <p>"I felt that it was accepted and encouraged among people to finally use the streets"</p> <p>"I felt very familiar, people were running with me and around me, I wasn't alone"</p>
	Safety reasons	<p>Perceived unsafety while using the streets</p> <p>Due to: vehicular priority in the streets</p> <p>Fear of harassment</p> <p>Fear of theft</p> <p>stray dogs</p>	<p>Perceived safety while using the streets</p> <p>Absence of cars left space for pedestrians to walk on the road</p> <p>presence of a lot of people around</p> <p>Eye of the street even from people in their balconies</p> <p>Stray dogs avoid places with people</p>
Tangible Reasons	Physical characteristics of the streets	<p>Bad conditioned sidewalks</p>	<p>No cars, left room for pedestrians to move on the wide straight road instead on the sidewalk</p>
	Privatization of recreational and social areas	<p>Presence of other alternatives (coffee shops, food complexes, private clubs..)</p> <p>"I have always preferred to meet my friends in a restaurant or in the club before the quarantine"</p>	<p>The street was the only option they had</p> <p>" We were forced to use the street as the only outlet for our social, psychological and physical needs, we liked it. "</p>

social life they would have at home. Finally, most participants have stressed on their urge to walk and jog in the streets to maintain their physical health. Fig. 13 illustrated the categorization of the participants answers along with actual quotes from the interviews.

It should be noted that these four categories of purposes that were extracted from the participants' answers are not isolated from one another. Participants have stated one or more reasons for their participation in street activities during the lockdown period. The most common answer which was repeated significantly (about 80% of their answers) was to fulfill their psychological needs to go out. Followed by the fulfilling of their social needs which was divided between passive engagement with people (around 20%) and actual socializing and active engagement with people which was around 40% of their answers. Finally, 35% of the participants who actually

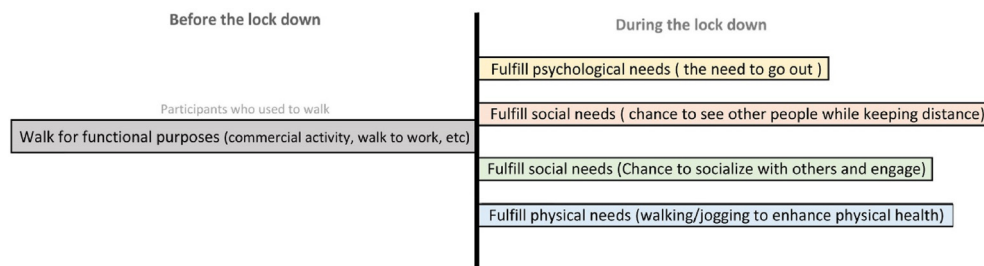


Fig. 12. Illustrating the change of the purpose of the simple activity of walking from before the lockdown period to during the lockdown period.

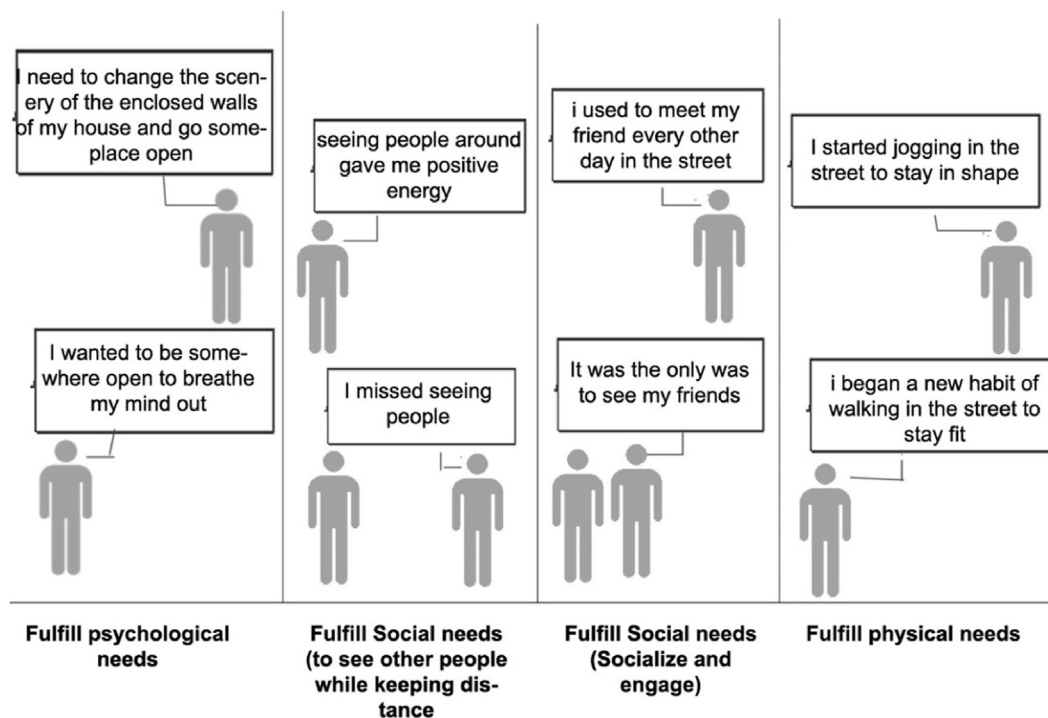


Fig. 13. Illustrating quotes from the participants about the purpose of their walking in the streets during the lockdown period.

had a sportive background had stated that they used the streets to fulfill their physical needs to workout.

- **The second aspect** of the urban life that changed during the lockdown period is the type and the number of users using the space. During the lockdown it was no longer common to see an individual walking solely in the streets as before. *"I would rather grab a friend or a family member while walking in the streets than to walk alone"*, a participant stated. They explained that the street was the chance for any social interaction that they longed for while being locked at home. Groups of people were always spotted in the streets doing and sharing activities together. Fig. 14 illustrated the change illustrating quotations from the participants concerning the change in the number of users of the activity from before to during the lockdown period
- Moreover, and moving to the **third aspect**, it was also observed that the type of users has changed from before the lockdown. Senior residents for example were scarcely seen in the streets. *"I do not go out of my house, I really fear infection"*, a senior participant stated. Also because of the total lock down and the banning of the navigation of vehicles after curfew hours, each district was used mainly by its residents (except for a little number of occasional visitors). Many participants noticed that the type of users using their streets differed during the lockdown. The street was no longer used by workers, shoppers or outsiders rather it was used by residents enjoying their home range area.
- **The fourth and last aspect** that changed during the lockdown is the time of the activities. It was observed that people's presence in the street was concentrated in the last hour before sunset and through the night on week days. Residents probably were occupied with working at their homes in the morning and left the open spaces to the hot sunny weather. *"There were specific times when you will find the street overcrowded with people especially those who jog as if there was a marathon"*, one participant explained. Before the lock

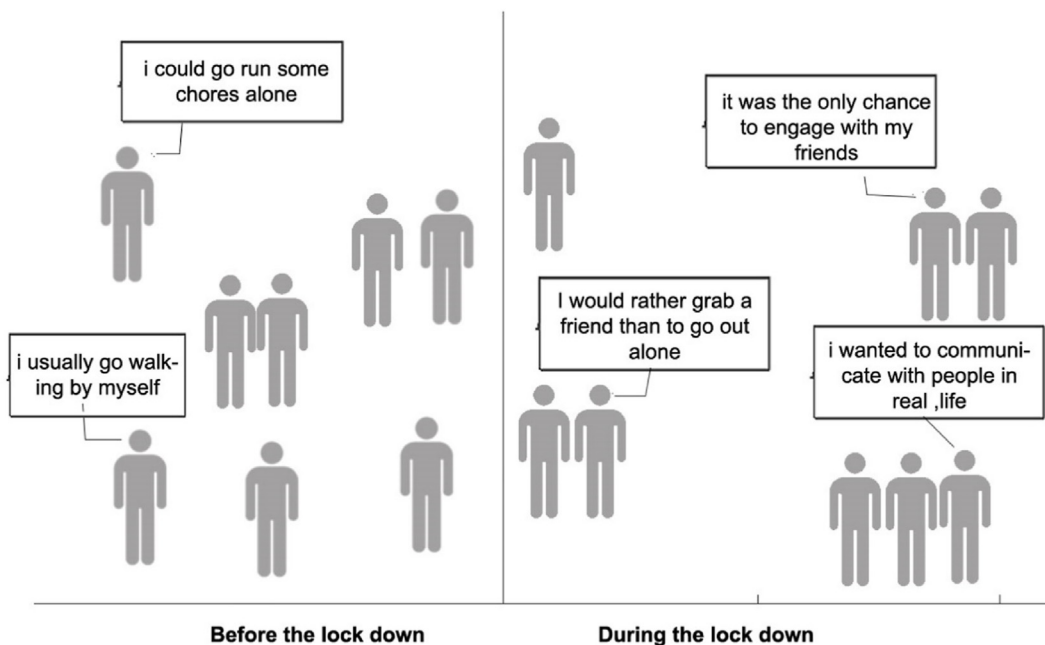


Fig. 14. Illustrating the change in the number of users doing the activity together from before to during the lockdown period.

Table 2

Summarizing the main changes in the street activities before and after the lockdown period.

Changes in the street activities	Before the lockdown	During the lockdown
Change in the purpose of walking	Walk for functional purposes	Walk to fulfil psychological needs/ social need (passive or active engagement)/ physical needs (physical health)
Change in the number of users	Could spot individuals walking solely in the street	Groups of people are spotted doing activities together
Change in the type of users	Residents, visitors, workers, shoppers... All age groups	Residents and limited number of outsider Senior residents where scarcely seen in the street
Change in the time of practicing the activity	Distributed along the day. There are rush hours and calm hours	Concentrated in specific favoured time of the day

down, pedestrians performing activities were distributed along the day, but during the lockdown they were more concentrated on specific favourable times.

These phenomena show the ability of residents to adapt to the new circumstances. They have created their own adaptive systems to survive the lockdown difficulties. Also residents have renounced what has always been theirs and had the power to appropriate the

streets that they have long abandoned see (Table 2). They finally got back their right to the city, in the following section we discuss what these results meant to the study.

5. Discussion

The outbreak of the pandemic has surely brought many misfortunate events. However, and across all times we have learned that the greater the storm the brighter the rainbow. Analysis of the empirical research done in this paper reveals several positive outcomes that are worth highlighting.

Physical and psychological health, taking the vehicles away from the residents and from the streets both forced and allowed those same residents to do more physical activities. As explained, the public spaces of the neighborhood were not so encouraging for the residents before but as the vehicles disappeared they started using them more. Even if the pavement is not adequate, they can safely walk in the street itself as if the streets were turned into pedestrian promenades at night. Street activities were happening everywhere without fearing that a vehicle might pass by. This helped the residents fight the psychological setbacks of being cut from their loved ones and the burden of having to work/study alone at home with the immense lack of human interaction that it represented.

Social ties, with that new norm began a formation of new social ties. Residents of the same street started seeing and caring for each other more than before. The eye on the street included an eye on the neighbours. With the reality of the bigger family members away and unable to meet for fears of spreading infections, neighbours tended to form new friendships mainly through activity companionship (Legeby, 2010; Asef, 2012; Mouelhi, 2014). Despite the rules for social distancing, one should salute the social intimacy created by the people who are witnessing the pandemic. People shared the same response when they were forcefully locked down at their homes, they started to use the public streets more and sit in their balconies more often. As Rogers (2020) argues that this shared social intimacy has decreased the cruelty of the physical social distancing.

Sense of belonging, walking down your neighborhood streets, looking at it and knowing it thoroughly is very different from quickly passing it by in your car then going up to the safety of your apartment. Their extensive usage of the streets was more because of a sense of ownership. The streets were not repelling anymore but rather inviting and presenting a safe haven for the first time in modern times. Moreover, participants tended to be proud of their ability to appropriate the streets again and their power to adopt the spaces to suit their needs.

New rules..New habits, Cairo once named the city that never sleeps, is famous for its recreation and commercial life that operates 24/7, supermarkets, pharmacies fruits and vegetable shops, coffee shops and many more used to never close their doors. They were the places where residents spend their after work time but with the sudden closure of most of these places at all or after 5 p.m., residents of the neighborhood were left no other option for their after work activity than the street. It became evident that a simple change in rules can have a major effect on people's lives, the question that remains is whether those residents will be able to maintain their new acquired habits or will they lose it once life goes back to the way it was before.

The unheard sound of the city, basing on what is discussed above about Cairo, the sounds that you would usually hear in the city before the pandemic was a mixture of car horns, people's negotiation, laughter and sometimes quarrels, street vendors calling to sell their goods, mosques prayers and churches' bells calling out loud. Since the pandemic, and the forceful closing of commercial facilities and religious buildings along with the curfew that limited vehicular movements in the street has made the sound of the city calmer. Cairo has witnessed a similar case as what Rogers (2020) and Sharifi and Garmisr (2020) discuss that you can actually hear the natural sounds of the birds singing and the wind blowing in the previously dense and noisy streets of several cities around the world during the lockdown.

6. Conclusion

This study investigated the effect of the lock down caused by the Covid-19 pandemic on the urban spaces in Sheraton residencies neighborhood in Cairo. It tried to understand the emerging phenomenon that happened during lockdown with the residents' sudden excessive use of their streets.

The uncommon circumstances forced by the lockdown have brought with it many changes in the urban life. After being abandoned for cultural reasons, perceived unsafety, lack of attractive physical qualities and the presence of other more appropriate alternatives, the streets of the neighborhood have regained their vitality and liveability during the lockdown. Many people have referred to the streets as the only alternative for their psychological wellbeing, as well as enhancing their social and physical health.

It appeared from the study that participants had the power to create new adaptive systems to suit different circumstances. Also, they have acquired new habits and found their way to the urban life within their home range. Moreover, the main social stream has a great power to stir people in different directions. Most of the new street life activities would not have flourished during the lockdown if it weren't for the banning of the navigation of vehicles at that time. The vehicular priority in the urban streets of the neighborhood has surely left its streets dull and dead with minor pedestrian life. Furthermore, the closing of the commercial and recreational facilities have had a hand in the flourishing of street activities. It became clear that when given the chance, both in time and place, people will use their public spaces, regardless of their class.

It is recommended that shops and recreational facilities play an active role in enhancing the street life around them. These facilities should actively participate and spread activities around them rather than being enclosed to certain users. Another alternative could be their closure in early hours like during the lockdown period to leave room for the urban spaces to accommodate different activities.

Further research is required to see whether those same people will keep their new acquired habits or will lose them once these strict measures are gone. It would be rather interesting to study the effect of Covid-19 on other neighbourhoods in Cairo with different social

and urban characteristics. Perhaps the denser, compact neighbourhoods with limited urban public areas and inhabited by lower economic social groups has witnessed different forms of adaptation to the Covid-19 circumstances in the urban space. Similarly, a research studying the effect of the pandemic on the gated compounds with vast open public spaces, controlled entries and inhabited with higher economic social groups may bring different outcomes. In Sum, it is crucial to explore the different impacts of the pandemic on the urban life in cities and learn from the potentials of city dwellers to adopt to the current circumstances. This should facilitate successful decisions from decision makers, urban designers and researchers.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Abaza, M. (2006). *The changing consumer cultures of modern Egypt, Cairo's urban reshaping*. Cairo: The American University in Cairo Press.
- Alter, L. (2020). *Urban design after the coronavirus*. Treehugger.
- Amin, G. (1997). *Whatever happened to the Egyptians?* Cairo: El Sherouk Press.
- Asef, B. (2012). Marginality: Curse or cure? In R. Bush, & A. Habib (Eds.), *Marginality & exclusion in Egypt* (pp. 14–27). Cairo: The American University in Cairo press.
- Barriball, K. L., & Alison, W. (1994). Collecting data using a semi-structured interview: A discussion paper. *Journal of Advanced Nursing*, 19(2), 328–335.
- Burdett, R., & Rode, P. (2011). Living in the urban age [introduction]. In R. Burdett, & D. Sudjic (Eds.), *Living in the endless city: The urban age project by the London school of economics and deutsche bank's alfred herrhausen society*. London: Phaidon Press.
- Butterworth, I. (February 2000). "The relationship Between the built Environment and wellbeing: A literature review" prepared for the victorian health promotion foundation. Melbourne, Australia.
- Cabinet, E. accessed 20200330 <https://www.facebook.com/EgyptianCabinet/posts>.
- Cairo districts map. (December de 2020). Retrieved from: <https://maps-cairo.com/cairo-districts-map>.
- Capmas. (2020) accessed 20201010 <https://www.capmas.gov.eg/>.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Los Angeles ; London ; New Delhi ; Singapore ; Washington DC: SAGE.
- Dobrowolska, A., & Dobrowolski, J. (2006). *Heliopolis: Rebirth of the city of the sun*. American University in Cairo Press.
- Eissa, D., & Khalil, M. (2013). *Reclaiming residual spaces for the public: A case study from the city of Cairo. ICCPP 2013 conference proceedings. ICCPP 2013/ISSN 2345-9530*.
- Eissa, D., Khalil, M., Gabr, A., & Abdelghaffar, M. (2019). From appropriation to formal intervention: An analytical framework for understanding the appropriation process in residual spaces of Cairo. *Frontiers of Architectural Research*, 8(2), 201–214.
- Fatmi, M. R. (2020). Covid-19 impact on urban mobility. *Journal of Urban Management*, 9(3), 270–275. <https://doi.org/10.1016/j.jum.2020.08.002>
- Gehl, J. (2002). *Public spaces and public life*. Copenhagen, Denmark: Gehl Architects Aps.
- Gehl, J. (2010). *Rogers. "Cities for people"*. Island Press.
- Gertel, J. (2009). Market spaces: Merchants battle the economic narratives of development experts. In D. Singerman (Ed.), *Cairo contested* (pp. 371–393). Cairo, Egypt: The American University in Cairo Press.
- Ghanem, S., Moustafa, Y., & El-Ela, M. (2018). Social cohesion in Cairo and the nature of boundary areas between socio-culturally distinct districts: The case of el-maadi - dar el-salam boundary. *International Journal of Scientific Engineering and Research*, 9(8), 801–808.
- Gregory, D., Johnston, R., Pratt, G., Watts, M. J., & Whatmore, S. (Eds.). (2009). *The dictionary of human geography*. Malden: Blackwell.
- Groat, L., & Wang, D. (2013). *Architectural research methods*. New Jersey: John Wiley & Sons, Inc.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Hassan, D., Moustafa, Y., & El-Fiki, S. (2019). Ground-floor façade design and staying activity patterns on the sidewalk: A case study in the korba area of heliopolis, Cairo, Egypt. *Ain Shams Engineering Journal*, 10(3), 453–461.
- Honey-Rosés, J., Anguelovski, I., Chireh, V. K., Daher, C., Cecil Konijnendijk van den Bosch, Litt, J. S., Mawani, V., McCall, M. K., Orellana, A., Oscilowicz, E., Sánchez, U., Senbel, M., Tan, X., Villagomez, E., Zapata, O., & Nieuwenhuijsen, M. J. (2020). *The impact of covid-19 on public space: An early review of the emerging questions – design, perceptions and inequities*. Cities & Health. <https://doi.org/10.1080/23748834.2020.1780074>
- Jacobs, A., & Appleyard, D. (1987). Towards an urban design manifesto. *American Planning Association Journal*, 53(1), 112–120. <https://doi.org/10.1080/01944368708976642>
- Jacobs, J. (1961). *Death and life of great American cities*. New York: Random House Inc.
- Hsieh, Hsiy-Fang, Shannon, Sarah, et al. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Jasiński, A. (2020). Public space or safe space – remarks during the Covid-19 pandemic. *Technical Transactions*. , Article e2020020. <https://doi.org/10.37705/TechTrans/e2020020>
- Maarouf, N., & El-Alfy, A. (2012). An approach towards solving pedestrian problems in modern Cairo. *Journal of Applied Science and Research*, 8(1), 144–156.
- Mahrous, Moustafa, Y., & Abou El-Ela, M. (2018). Physical characteristics and perceived security in urban parks: Investigation in the Egyptian context. *Ain Shams Engineering Journal*, 9(4), 3055–3066.
- Masoumi, H. E., Terzi, F., & Serag, Y. M. (2019). Neighborhood-scale urban form typologies of large metropolitan areas: Observations on Istanbul, Cairo, and Tehran. *Cities*, 85, 170–186.
- Mouelhi, Hassan (2014). *Culture and informal urban development the case of Cairo's "Ashwa" eyat (informal settlements)*. Germany: Köster.
- Nieuwenhuijsen, M. (2020a). The impact of COVID-19 on public space: A review of the emerging questions. <https://doi.org/10.31219/osf.io/rf7xa>.
- Nieuwenhuijsen, M. J. (2020b). Urban and transport planning pathways to carbon neutral, liveable and healthy cities; A review of the current evidence. *Environment International*, 105661. <https://doi.org/10.1016/j.envint.2020.105661>, 2020.
- Opdenakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. *Forum for Qualitative Social Research*, 7(4), 11.
- Roberts, D. (2020). *How to make a city livable during lockdown*. Vox.
- Rogers, D., Herbert, M., Whitzman, C., McCann, E., Maginn, P. J., Watts, B., Alam, A., Pill, M., Keil, R., Dreher, T., Novacevski, M., Byrne, J., Osborne, N., Büdenbender, M., Alizadeh, T., Murray, K., Dombroski, K., Prasad, D., Connolly, C., ... Caidis, S. (2020). The city under covid-19: Podcasting as digital methodology. *Tijdschrift voor Economische en Sociale Geografie*, 111, 434–450. <https://doi.org/10.1111/tesg.12426>
- Sepe, M. (2021). Covid-19 pandemic and public spaces: Improving quality and flexibility for healthier places. *Urban Design International*, 26, 159–173. <https://doi.org/10.1057/s41289-021-00153-x>
- Sharifi, A., & Khavarian-Garmsir, A. R. (2020). The Covid-19 pandemic: Impacts on cities and major lessons for urban planning, design, and management. *The Science of the Total Environment*, 749, 142391. ISSN 0048-9697.
- Sims, D. (2012). *Understanding Cairo, the logic of a city out of control*. Cairo, New York: The American University in Cairo Press.

- Speck. (2020) accessed 20200915 <https://www.youtube.com/watch?v=6cL5Nud8d7w>.
- Streimikiene, D. (2014). Natural and built environments and quality of life in EU member states. *Journal of International Studies*, 7(3), 9–19.
- Un-Habitat. (2012). Placemaking and the future of cities. *PDF*, 17.
- Wanas, A., Moustafa, Y., & Murshed, S. (2014). Social Cohesion in Cairo: Towards a better understanding of the potential role of urban design. *Journal of Engineering and Applied Science*, 61(1), 1–24.
- Wilson, S. L. (2011). *Culture shock! A survival guide to customs and etiquette Egypt*. Tarrytown, NY: Marshall Cavendish Corporation.
- Yasser, M., Elfiki, S., & Fahmy, A. (2018). Investigating users' preferences in evolving and created shopping environments of Cairo. *Cairo University Journal of Engineering and Applied Science*, 64(1), 21–43.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Zifferblatt, S. M. (1972). Architecture and human behavior: Toward increased understanding of a functional relationship. *Educational Technology*, 12(8), 54–57. www.jstor.org/stable/44418593.
- Legeby, A. (2010). Urban Segregation and Urban Form, from residential segregation to segregation in public space. Unpublished Thesis in Architecture Stockholm, Sweden.