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Research Article

A place-based crime prevention through urban design: The case of Sahibata Neighborhood in Konya

Matiullah Faizy[1], Asst. Prof. Dr. Kadriye (Deniz) Topçu[2*]

[1]Konya Technical University, Faculty of Architecture & Design, Department of Urban and Regional Planning, Konya, Turkey.
matifaizy@gmail.com

[2]Konya Technical University, Faculty of Architecture & Design, Department of Urban and Regional Planning, Konya, Turkey.
ktopcu@ktun.edu.tr

*Corresponding Author
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Abstract
People have the right to live in a safe environment free from crime and fear of crime with the most basic social needs. Although the subject has many different dimensions, this study evaluates it from a spatial perspective. The main aim of the study is to determine whether urban design is effective in reducing crime and fear of crime in urban spaces. For this purpose, firstly, place-based theories were investigated and a total of 12 effective design factors in producing safer spaces were revealed. Secondly, these factors were tested by visual observations and a total of 109 surveys with the users of the Sahibata neighborhood which has the highest crime rate in the city. While the visual observations were interpreted by photographs, the derived survey data were interpreted by using frequency and crosstab analysis. In conclusion, besides producing some spatial strategies such as revitalizing the lost spaces, increasing the lighting level, providing activity generators, variety of functions, decreasing the acts of vandalism signs and providing legibility and belonging clues in the sample area, it was emphasized that urban design is effective in minimizing crime and fear of crime, but it cannot be a single tool and it is necessary to evaluate the issue in the long term in all its other dimensions.

Keywords: Crime, Crime Prevention through Urban Design (CPTED), Fear of Crime, Sahibata Neighborhood, Urban Design.

INTRODUCTION

Crime, in urban areas has reached the highest levels in many cities of the world and affects the health of the people, their lifestyles, and the quality of life of the cities in a negative way (Moser, 2004: 2). Therefore, concepts such as *crime*, *fear of crime*, and *security of the city*, which make cities unsafe places to live in, cause unstable city developments, social, economic, and political discourses are the most prevalent urban and social problems on the agenda of the whole world (Frevel & Rogers, 2016: 134). These issues have been emerging because of rapid urbanization and population increase and have become one of the inevitable realities of life for the societies of all developing countries, in addition to crucial social issues among the other urban issues such as housing, traffic, environmental problems, etc.

According to Maslow's hierarchy of needs, the second important human need is safety after physiological needs such as water, food, rest, and warmth (Maslow, 1943: 370). From this point, the safety need can be thought of as the most important human need socially. As stated in the European Declaration of Urban Rights, crime prevention is seen as a right, beyond the necessity of the people living in the city. According to this

declaration, residents living in European settlements firstly have the right to live in a safe and secure city, free from crime, violence and illegal events (Düzgün, 2007: 6). Therefore, the creation of a safer urban environment has become a crucial social issue (Moon et al., 2014: 288) and should be on the agenda of authorized persons and institutions. At this point, urban planners & and designers should be aware of possible future crime risks caused by the physical environment and take precautions against them (Montoya, 2015: 399).

The concept of crime also has biological, psychological, sociological, economic, spatial, and criminological dimensions. Each of these scientific areas defines crime from their own perspective. According to biologically descriptive researchers, crime is defined as a behavioral disorder that occurs in biological and genetic groups with fewer populations in society compared to the general population. As for psychological definitions, crime refers to the psychology of the living environment in which a person lives and the psychological condition of life because of the influence of the collective response. Socio-cultural sciences define human criminal behavior as deviant behavior in society. In terms of criminology that defines crime according to the types of perpetrations**,** the act that constitutes a crime is an individual activity carried out by the part of the body on its own initiative and all the acts performed by the body acting in a deviating manner (Erdoğan, 2007: 18). Although it has many perspectives to examine, this study focuses on the effects of the design and physical organization of the space on the production of a possible crime. While investigating this, the study also partially refers to the social dimension of the sample area.

A considerable amount of research effort has been made to understand criminality, especially on the offender and, has taken place on the reasons that lead people to become criminals, such as poverty, social disadvantage, and so on. Conversely, the less effort has been directed towards “situational crime prevention” (Clarke, 1980: 137, 1997), or “place-based crime occurrence” which is oriented to modify the immediate conditions in which crimes are committed (Tilley, 2010; Montoya, 2015: 399). In this study, the physical conditions and design of a space will be considered to understand its role in the possible crime occurrence. And the “crime” refers not only to the phenomenon of the crime itself but also to the fear it creates (*fear of crime*).

Fear of crime, in its most general definition, can be defined as the feeling of fear and insecurity that a person feels in danger of their individual security. This fear especially arises from the fears such as being attacked and extorted in urban areas and it affects individuals' perceptions of spaces and is one of the important factors in defining a space as unsafe (Ataç, 2008: 18, Wekerle & Whitzman, 1995).

From this point, the objectives of the study are to discuss the followings.

- Do the “physical conditions of a place” and “the design of a place” encourage crime and cause fear of crime? Do they effective in reducing crime risks in urban areas? If so,
- What are the successful physical attributes of urban spaces for helping to reduce crime and fear of crime occurring in urban spaces? What are the composed of spatial design factors that affect crime occurrence and cause/prevent fear of crime?

To reach these objectives, at the first stage of the study, comprehensive literature research related to the theories that integrate place with the crime was made. In the second stage of the study, the derived urban design criteria from the theoretical basis interpreted within the sample area, Sahibata neighborhood (Konya), by using observations, visual analysis, household survey with the users of the area, maps, and photographs. It was not possible to conduct an analysis of all the districts of the city due to the wide scope, therefore the main crime agglomeration district of the city -*Sahibata Neighborhood*- was selected to be analyzed. This study underlines the necessity of considering the issues of “crime” and “fear of crime”, which are mostly discussed on the triggering role of sociological and economic contexts, in physical/spatial context. At the same time, getting the opinions of the people living in the Sahibata neighborhood together with visual evaluations, is an indication that this study handled the issue with a participatory approach. In this context it is an original study because it is one of the rare studies that try to analyze the crime issue based on 'place' with a participatory aspect in the relevant literature.

Place-Based Crime Prevention Theories

There are many explanations in the literature for the development of offenders, but it is still needed an explanation for criminal events in selected certain target places. Why some target places are attractive, and

others are repellent? Below we describe how crime and place come together in theories and how they have been applied to crime prevention (Eck & Weisburd, 2015: 4).

The crime theories in the past were interested in the measures after crime occurrence such as penalty, punishment, correction, and treatment. But, since the 20th century, the concern has moved to the crime prevention. Crime prevention theories have been unfolded in various ways to create a safer city against crime through improving urban space (Moon et al., 2014: 290). In this framework, the studies which link the built environment and crime, a comprehensive perspective on the use of space in crime prevention has only been on the agenda since the 1960s. After these years, the focus of crime theories is not on the conditions of the offender, but rather on the use of space to prevent crime. The view that "opportunities in the physical environment are the main cause of crime" is the main motivation behind urban design studies to prevent crime. Another aim of these studies is not only to prevent the crime but also to prevent the anxiety or the fear of the crime related to the existence of the crime (Hillier & Rooksby, 2005; Apak et al., 2002: 66, Düzgün, 2007: 7).

The breaking point of linking built environment and crime was Jane Jacob's study. It was the first influential work to suggest that "active street life" could cut down the opportunities for crime. She focused on the role of "eyes on the street" to maintain social control. Jacobs's study was simple; people, not the police, are the guardians of the public space (Linden, 2007: 141, Adel et al., 2016: 926). Almost all the theories about urban design and crime prevention have been based on this idea (Hillier & Rooksby, 2005). She found that "natural surveillance" was essential for the feeling of safety and that could be achieved by increasing the number of people using a particular area through encouraging a diversity of uses and creating opportunities for positive social interactions (Jacobs, 1961). The "eyes on the street" theory (Jacobs, 1961) states that the systematic zoning of areas reduces the surveillance potential. Thus, civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. This theory is the basis for the "activity support concept" of crime prevention through environmental design (CPTED). Activity support involves the generation of activity by ordinary citizens to discourage criminal action and, more specifically, the placing of "safe" activities to serve as magnets for ordinary citizens who may act to discourage the presence of criminals (Cozens et al., 2005: 337). The activity support concept has been translated by many into simply the encouragement of "mixed land use". However, it does not aim to encourage activity in general but instead to identify "safe" activities and locate them where these are likely to have a positive impact (Montoya, 2015: 409). Other researchers have reported similar findings like busier streets with mixed land use patterns, range of activities and some pedestrian movements have reduced levels of recorded crime and contribute to a safer, more vital public realm (Poyner & Webb, 1991; Petterson, 1997: 190; Hillier & Shu, 1999: 37, Zelinka and Brennan, 2000; Montoya, 2015: 402).

As the result of the research, in the following process of Jane Jacobs' study, theories explaining the relationship between crime and urban space design can be sorted as (1) Crime Prevention through Environmental Design (CPTED), (2) Defensible Space, (3) Space Index Analysis (space syntax), (4) Broken Windows Theory and (5) Trace Theory. In addition to these theories, various underpinning crime prevention theories and concepts are relevant in the field of place-based crime prevention, such as social disorganization, rational choice, routine activity, anchor point, crime pattern, directional bias, critical crime intensity zone, crime habitats (Montoya, 2015: 409). Since these theories are thought to disrupt all subject integrity, they have not been evaluated within the scope of the study. The theories given below and explained in more detail are included in the study as they explain place-based crime theories through urban design.

Crime Prevention through Environmental Design (CPTED)

This theory which links the built environment with "crime" and the "fear of crime" concepts was first introduced in Jeffery's work (1971) which did not contain physical solutions and provide actual standards for what the physical environment should resemble to reduce crime and fear of crime and to promote quality of life. It was largely conceptual. The final currently accepted version of this theory was developed by Timothy Crowe (2000) who describes CPTED as follows: "with proper design and effective use of the built environment, a decrease in crime and fear of crime or an increase in the sense of security of people and an increase in living standards can be observed". Thus, the goals of CPTED are to increase public safety and to

promote a sense of physical security through the physical design and planning of the built environment (Ziegler, 2007: 11).

CPTED principles attempt to reduce the opportunities for crime by making crime riskier. At the core of CPTED as a crime fighting strategy is the creation *of a sense of ownership and control of space* to manipulate the environment to dissuade offenders from committing crimes while at the same time making sure criminals would easily be detected and arrested should they even decide to commit an offense (Hillier & Rooksby, 2005; Düzgün, 2007: 7).

According to the theory, there are four most dominant principles of preventing crime & fear of crime; *(1) Natural Surveillance (2) Access Control, (3) Territoriality and (4) Maintenance* (Geason & Wilson, 1989; Saville & Cleveland, 2003: 8; Cozens, 2002: 132, Owusu et al., 2015: 255, De Biasi, 2017: 126).

“Natural surveillance” promotes an individual's ability to have clear views of his or her surroundings (Crowe, 2000). This kind of surveillance requires the design of buildings to allow occupants and community members to have a continuous observation of both public and private spaces within communities. For providing natural surveillance and the transparency of the area, the number and location of the windows, the door entrances of the building from the street (Newman, 1973), the number and level of proper lighting elements (Lab, 2000), the presence of obstructive landscape elements (fences, walls, hedges, trees, shrubs) are very important (Jeffery, 1971; Crowe, 2000; Owusu et al., 2015: 256). Ultimately, this ability minimizes the availability of hiding places that offenders can use in wait of an innocent bystander.

Similar to natural surveillance, “access control” measures include clearly delimiting points of entry and exits of buildings as well as placing walls/fences, lighting and landscape in a careful manner in order to limit easy access to buildings or control flows of people to and from buildings. It refers to the ability to control inbound and outbound to restrict access to illegitimate users. It can also be considered as a set of efforts and measures that increase the effort of the potential criminal and raise the awareness of the high risk, and make the target difficult (Lab, 2000). At this point, it is generally mentioned that the door entrances should be on the street to increase the natural surveillance opportunities and that the neighbors and families should use the same common entrance. In this way, residents can get to know each other and thus distinguish the stranger. This can be achieved with designs that allow frequent encounters in urban spaces (Newman, 1973; Lab, 2000).

At this point, natural access control measures include the use of a single and easily identifiable point of entry and exit from buildings, secure doors and windows, the presence of fences and walls surrounding the area, limiting the number of entrances, limiting escape routes, and eliminating design features that allow access to roofs can be the examples of measures that make crime more difficult and provide higher security (Owusu et al., 2015: 255; Lab, 2000). “Target hardening” measures can also be related to controlling access to particular places, which may involve the treatment and securing of doors, windows, and alarms (Ziegler, 2007: 13). It is often thought to be the first solution for the residents and designers because it reduces the vulnerability of a potential target (building) physically (Owusu et al., 2015: 255).

According to Kruger (2005), when CPTED is applied at the community level it encourages a sense of ownership of and responsibility for community space by employing mechanisms that allow residents to identify with the space (Owusu et al., 2015: 255). It is called “natural territorial reinforcement” *or* “territoriality”. This concept aims to promote a sense of ownership and facilitate proprietary concern. Personalization design elements, such as artwork and landscaping are often used to achieve these goals. Features such as fences, landscape design and signage also help define the difference between private and public property. Territorial features promote an image of an environment that is being cared for and protected. This image signals to offenders that criminal behavior will not go undetected or unpunished (Crowe, 2000; Cozens et al., 2005: 331; Sutton et al., 2008: 75; Clancey et al., 2012: 9; De Biasi, 2017: 126). “Maintenance” is an especially important standard to uphold, and without it, territoriality, surveillance, and access control are critically jeopardized. It also helps create an attractive public space that is perceived to be under the care of an individual or a group of individuals (De Biasi, 2017: 127). These above design standards, implemented together as a package, can collectively influence an individual's perception of the environment (De Biasi, 2017: 127).

Defensible Space

CPTED was further developed by the concept of "defensible space" as posited by Oscar Newman (1973). Newman (1973) argued that an area is safer when people feel a sense of ownership and responsibility for that part of a community (Adel et al., 2016: 934). He argued that it was possible to design physical environments to decrease opportunities for crime and fear of crime by affecting the behavior of offenders and non-offenders (Newman, 1973; De Biasi, 2017: 126). According to Newman, "defensible space" refers to a living physical environment that can protect the families, neighbors of the people living in the area, and where the sense of ownership of the area is very intense (Lab, 2000). Based on this approach, beyond the self-protection of the individual, there is the ability of the society to protect her/him (Newman, 1973; Schneider and Kitchen, 2007).

Newman found that "minimized common areas", "maximized private ownership" and "minimized permeability" *(the ease of entry to and exit from the neighborhood)* are the attributes for the safest residential areas, neighborhoods (Newman, 1973). He states that people perceive space as being either private, semiprivate, semipublic, or public and their expectations and levels of involvement in caring and protecting it vary across these types. Therefore, "territoriality" is seen as the appropriation of space by legitimate users to discourage the presence of illegitimate users (Cozens et al., 2005: 331). This appropriation takes the form of caretaking, feelings of ownership, or monitoring of activities (Brunson et al., 2001: 630; Montoya, 2015: 402). Newman pointed out (1973) that under the territoriality principle of defensible space, it is important to distinguish four elements to secure unsafe spaces: public space, semi-public space, private space and semi-private space. Feeling this distinction will increase natural surveillance and crime can be prevented by people's awareness of their responsibility in the public sphere.

Space Index Analysis (Space Syntax)

In 1984, Hillier & Hanson introduced the theory of space syntax based on the concept of "social logic of space". This theory supports the idea that spatial configuration is associated with patterns of social interaction and therefore may affect crime rates (Erdoğan, 2007: 29). According to this theory, a good spatial layout generates automatic movement which increases the probability of interactions by unplanned encounters. The increased social interactions then increase the risk for a criminal to get caught and hence prevent him from committing the crime (Dhimn, 2006; Adel et al., 2016: 927).

It reveals that the isolation of the users of the space from other people and the patterns of dead-end streets do not prevent crime. Therefore, the integrated urban texture and creating more socially active spaces are important design precautions for safer environments. Apart from increasing the capacity of those living in a region to control their spaces, it aims to increase the control potential of the space without ignoring even those who are not from that space but just "passing by" (Düzgün, 2007: 7).

Broken Windows Theory

According to this theory, which draws attention to the role played by "physical disorder" in the formation of crime; if there is a building with some windows broken in a neighborhood and these windows are not repaired, it is inevitable for some people to break other windows in the building. As a matter of fact, the broken window in the building creates a negative sense of ownership, uncontrolled feeling in the building and encourages people to commit a crime. Such small crimes can then invite larger crimes. Since human beings want to feel belonging to the space they live in, they always tend to design and organize it. The sense of belonging or ownership has a very important role in human interaction and can only be achieved through continuous maintenance of the area.

Physical disorder includes environmental features that reflect neighborhood dilapidation such as graffiti, trash, and other debris (Skogan, 1992). This theory advocates that places that cause feelings of unattended, uncontrolled, neglected, dysfunctional and uninterested spaces (*poorly lit streets, abandoned buildings that have not been repaired for a long time, vehicle parking places without control, lost spaces etc*.) can produce crime (Doğan & Sevinç, 2011: 43). Therefore, "maintenance" is an especially important standard to uphold, and without it, territoriality, surveillance, and access control are critically jeopardized. It also helps create an attractive public space that is perceived to be under the care of an individual or a group of individuals (De Biasi, 2017: 127).

Trace Theory

Based on Kevin Lynch's work on the perception of the space, the trace theory he put forward in the 1960s tries to explain the occurrence of the crime by examining the “paths” and “nodes” used by the citizens which are the most active areas in the city that allow crime to be committed (Lynch, 1960). This theory can also be integrated with the ‘fear of crime’ in terms of perception and image. The individual is a part of the city and has a memory and image of the city that he/she has created in line with his/her own habits while living there. When the image is considered as the trace left by an urban space in one's mind, it can be said that people make their judgments about the urban space whether it is safe, unsafe, or scary based on these images.

Lynch (1960) identified the urban elements necessary for a city to leave a mark in one's mind as paths, nodes, districts, edges, and landmarks. These 5 elements are urban elements that prevent from getting lost and give confidence to the person. The absence/inadequacy of these elements can lead to the person losing his way or direction in an urban space and feeling not safe. Thus, this situation can trigger the fear of crime (Lynch, 1960). Therefore, if the area is defined, understandable and has elements that facilitate finding directions (defined nodes, landmarks, edges, streets, districts, address plates and numbering) has an important effect on reducing the fear of crime.

According to the *place-based crime* theories cited above, it is understood that “crime” and “fear of crime” can be reduced by some spatial design tools (Bannister & Fyfe, 2001: 812). And, crime opportunities can be reduced through environmental design and the issue that urban design reduces the fear of crime and crime emerges as a fact accepted by many researchers (Schneider & Kitchen, 2007). In the light of the information obtained from the explanations of all these theories, the following set of criteria has been determined to be evaluated within the scope of this study (Table 1).

Table 1. Urban design criteria for providing safer environments

Theories			Urban design criteria
CPTED	Defensible Space	**1. Surveillance**	1. Natural-mechanical lighting level
			2.Transparency of the buildings & separators
			3.Elements that blocking the view
			4. Mixed use, variety of functions, activity supporting places
		2. Access control	5.Target hardening and building entrances
		3. Territoriality	6.The presence of representations of belonging, sense of ownership in the area
			7. The openness of the borders (public-private-semi-public-semi-private areas)
	Broken Windows Theory	**4. Maintenance**	8. Physical disorder of the streets (vandal movements, trashes, elements that prevent walking etc.) and maintenance level
			9.Presence of lost spaces (dysfunctional, neglected areas)
Trace Theory		**5. Easy wayfinding, imageability**	10. Addresses and numbering, guiding plates
			11. Perceivability, legibility and the image of the area
Space Index Analysis		**6. Spatial Layout**	12. Permeability of the streets

METHODS

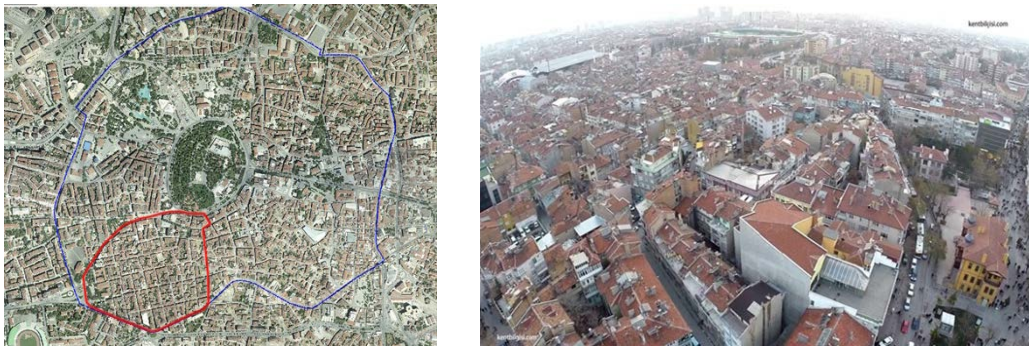
Besides literature research on the subject, maps, photographs obtained from the relevant institutions, visual observations, and the questionnaire application in the field with the users constitute the methods of the study. The visual observations include the interpretation of the determined urban design criteria in the sample area (Table 1). The authors made observations in the field in May 2019 at different time periods (morning, afternoon, and evening), took some observation notes and records and visualized some of the criteria with photographs. To be specific to the study area and be able to offer specific solutions to the ‘place’, in addition to the visual observations, a questionnaire was administered to a total of 109 people living in the sample area using a random sampling technique to measure user opinions. This number corresponds to approximately 2% of the population of the neighborhood. According to 2017 data, the population of the study area is 5228 people (Anonymous, 2019). The questions were prepared based on the determined urban design criteria above (Table

1). The derived data of the questionnaire application were evaluated by using frequency and crosstab analysis through the SPSS program.

The Case Study: Sahibata Neighborhood

In this study, Konya city-wide crime intensity map prepared by Konya Metropolitan Municipality, City Information System unit was taken as reference in the selection of sample area. It was chosen among the hot spots where the crime is the most intense in this map. According to the map, it is observed that the crime has increased in the city's central areas, especially where the historical and commercial areas are concentrated. Interviews were made with the *muhtars* (*neighborhood headsmen*) to choose the sample area among the hot spots[1]**.** As a result of these interviews, it was observed that the area with the highest crime rate in Konya city center was Sahibata Neighborhood.

Sahibata Neighborhood is one of the central neighborhoods of the city, located within the borders of Meram district of Konya province. Situated in the south and southwest of Konya city center and Alâeddin Hill, the neighborhood covers an area of 21 ha in total. The quarter, which is known to be one of the oldest and historical neighborhoods of Konya, is a transition zone between many areas of the city. Konya Alâeddin Hill, which is located in the northeast of the study area, was designated as a "1st Degree Archaeological, Natural and Historical Site", and because the areas around the hill between the inner and outer borders were declared as 3rd Degree Archaeological Site Area, the Sahibata Neighborhood, which was chosen as the sample area, also has the status of "3rd Degree Archaeological Site" (Figure 1), as it is located in the cited area. Alâeddin Hill, which constitutes the historical core of Konya, is a mound that yields finds dating back to the Bronze Age (4500-2000 BC). The significance of reduction of the currently observed crime rates in the sample area, which is situated so close to such an importance place, or development of proposals and spatial strategies for the solution of this issue cannot be denied. This neighborhood, which has a grid form, is known as Konya's first planned and regular quarter (Anonymous, 2019; Figure 1).



a b

Figure 1. The location of the study area in the city center (a) and its bird's eye view (b)

FINDINGS

Results of the Visual Observations

The first feeling that people want to have when they enter an urban space is the sense of security. The reassurance of the physical environment supports the person to use that environment and perform their activities. If it does not give confidence, that environment will become unused, away from the livability, and this may trigger the increase of lost places in the physical environment. For this reason, the determined urban

[1]The crime analysis and academic approach is restricted because Konya Police Department and Konya Municipality do not release the real crime data despite official correspondence for reasons of privacy and private property rights. Therefore, the method of interviewing with the *muhtar*s (neighborhood headsmen) was preferred in the sample area selection of the study.

design criteria (Table 1) was analyzed by using physical environment data. According to the visual observations of the selected neighborhood, the findings were as the followings.

Surveillance

Natural-mechanical lighting level: The adjacent and orderly buildings in the area are mostly 3 to 4 floors and the street widths vary between 4-5 meters. According to the calculations made in the grid-shaped neighborhood, the street width and building height ratio is approximately 1/2. This ratio shows that this neighborhood is not claustrophobic and disturbing in terms of urban design, and the feeling of being trapped is weak (Ashihara, 1983). It can receive enough natural light during the daytime (Figure 2).

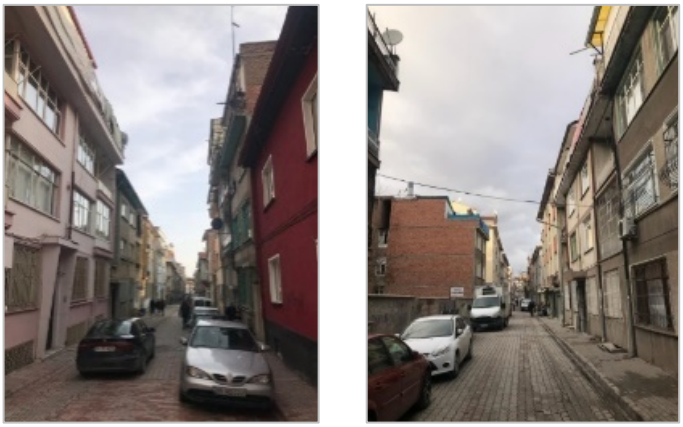


Figure 2. Natural lighting level during the daytime

The height of the lighting elements in the sample area is 6-8 m. and they are placed approximately 7.5 m from each other in the area. This situation causes the area not to be adequately illuminated. In some places it is completely dark due to the absence of lighting elements. Many of the existing ones are dysfunctional. Since there is no lighting control in the area and the problem lamps are not repaired, the area turns into an unsafe environment at night. The photograph below is showing the darkness of the area in the evening hours in May 2019 (Figure 3).

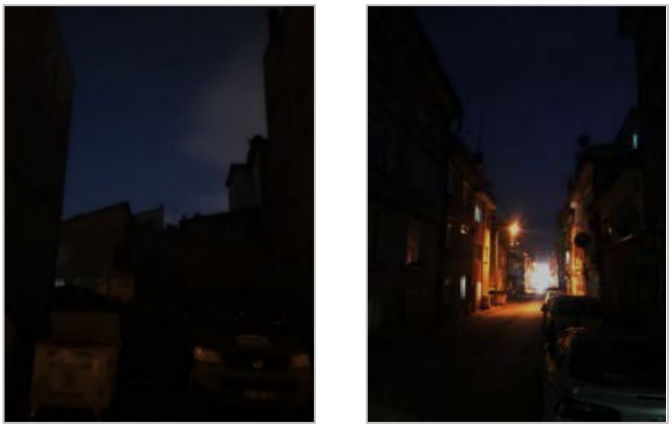


Figure 3. The darkness of the area in the evening hours

Transparency of buildings & separators: It is seen that there are windows that allow natural surveillance throughout the study area. However, it is necessary to draw attention to the presence of the deaf facades and lack of on-street entrances in some places.

There is high, aesthetically neglected, mass-effected walls in some places, generally around the vacant lots, within the study area. These walls may cause psychologically negative impressions in people's mind as they cannot see beyond these and thus can trigger the fear of crime (Figure 4).

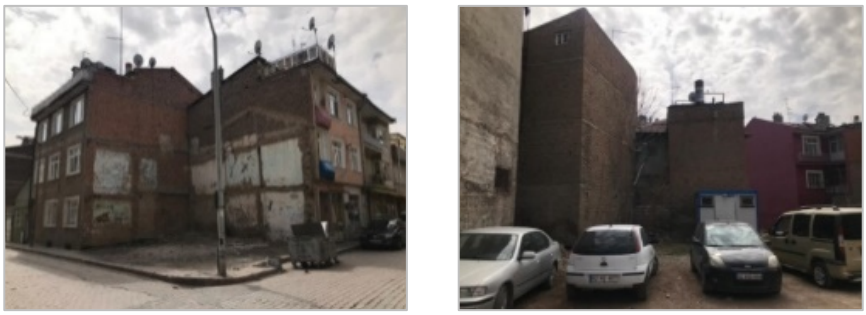


Figure 4. Deaf facades blocking the natural surveillance

Elements that blocking the view: There are no trees/bushes used on the streets, so there are no hidden corners in the area to prevent sight.

Mixed use, variety of functions, activity supporting places: The small commercial units within the interior of the area are usually very old shops, and some of them are vacant. There are no parks and playgrounds or any actively used areas except for a few coffee shops (only for the men) and a casino in the area. Besides the closed and empty commercial units, the lack of gathering and activity places are together creating the lack of mobility, which weakens the feeling of security. The users of the coffeehouse (kahvehane) are the only people who activate that area during the day, but at night, the casino can increase the feeling of insecurity. The casino located in the middle of the neighborhood creates an uncomfortable feeling for people both in terms of security and noise. This cannot be considered as ‘safe’ activity for the people to gather (Figure 5).

There is no common place in the study area where children can play, and other groups can spend time even around the public buildings. In addition to the lack of open and green spaces within the area, positive effects such as children's playing sounds, bird sounds, water sounds, sounds that people make while chatting cannot be felt in the area. These kinds of shortcomings may not be an obstacle in terms of seeing and to be seen but may create a negative effect on the psychology of the people living in the area or the people walking through it.

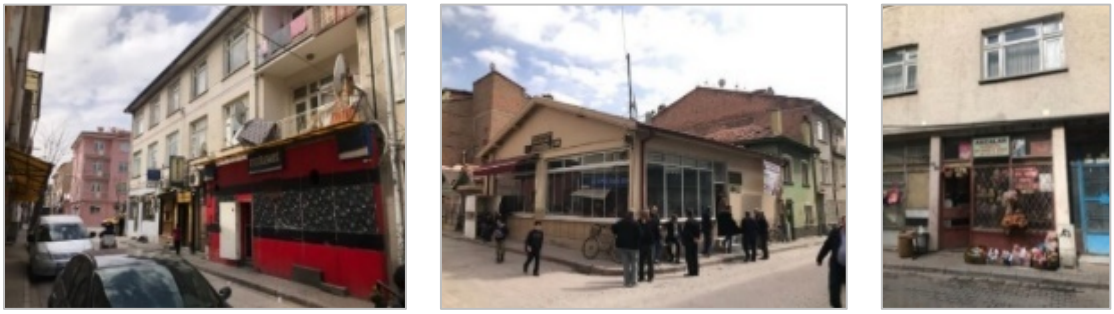


Figure 5. Examples from small commercial units within the area

Access Control

Target hardening and building entrances: As a precautionary measure against crime in the area, only iron railings on the windows of some ground floors can be shown. The entrance doors of the buildings are open in many points of the area, and it is not seen that locks and similar measures have not been taken (Figure 6). These situations can encourage criminals. Most of the main building entrances are on the street which can be seen as a positive effect for providing safer environments.

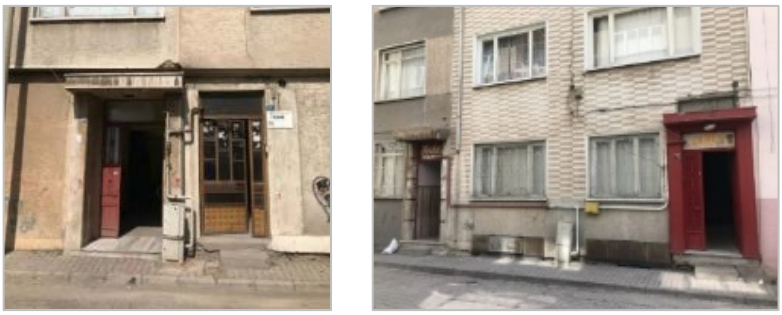


Figure 6. Entrance door and window examples

Territoriality

The presence of representations of belonging, sense of ownership: No spatial data has been obtained on this subject. Besides, throwing trash on the streets (in some cases from the windows of some buildings), knowing that the lighting is weak, but lack of reaction to it, failure to check those coming from outside, parking cars on both sides of the street, keeping silent to acts of vandalism, and not paying attention to the structures are the examples that prove there is no sense of belonging or ownership, and no territoriality hints in the neighborhood.

The openness of the borders: Public and private areas are not clearly separated within the area. The public spaces are generally adjacent to the buildings or the border between them is almost negligible. Since the boundaries of public buildings from private areas are not apparent, their distinctive character cannot be perceived well, and they usually disappear among private areas (Figure 7).

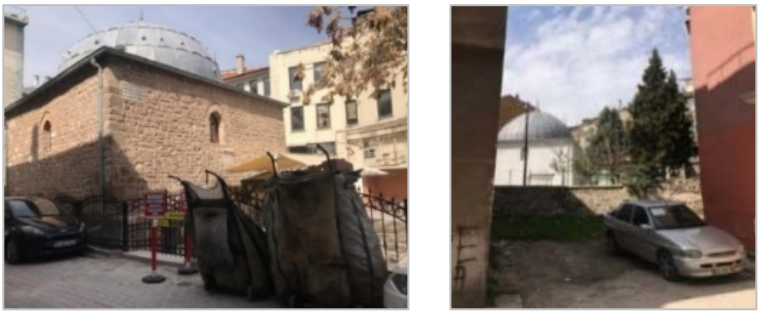


Figure 7. Examples for the boundaries between public and private space

Maintenance

Physical disorder of the streets and maintenance level: There is no visually attractive design element or public art object in the sample area. It is an area lacking even the visual appeal that open and green spaces add to the environment. There are ruined and neglected buildings almost in every part of the area. When street designs are considered, the visual/aesthetic and functional aspects of the streets are not satisfactory for encouraging people to walk through. Although there are garbage bins in the streets, people's throwing garbage to the streets rids the streets of visual appeal and makes the area unsafe. Therefore, the streets, which are one of the important public spaces, are only a transition space within the neighborhood.

There are no sidewalks in many parts of the area. The streets are not encouraging to take walks due to the obstacles on the sidewalks such as electric poles, electric boxes, trash bins, parking vehicles. Since the sidewalks are very narrow (0.5m.), many people walk in the middle of the street. This is a matter that threatens the security of life of people.

The narrow streets, the vehicles parked in front of the buildings which sometimes cause discussions and quarrels between people show the needs for parking lots in terms of the image it gives. To solve this problem, some empty parcels have become parking lots. Since the area is in the city center, the inner streets of the area are generally used as parking lots by the foreigners. This situation is also conducive to crime and fear of crime (Figure 8).

Vandalism acts are frequently encountered in almost every street of the neighborhood. Writings/graffiti on the walls and damaging public-private properties are the indicators of this negligence. The windows of some empty, dysfunctional structures in the area were broken. It does not offer a reassuring environment for a person who first enters this area (Figure 9).

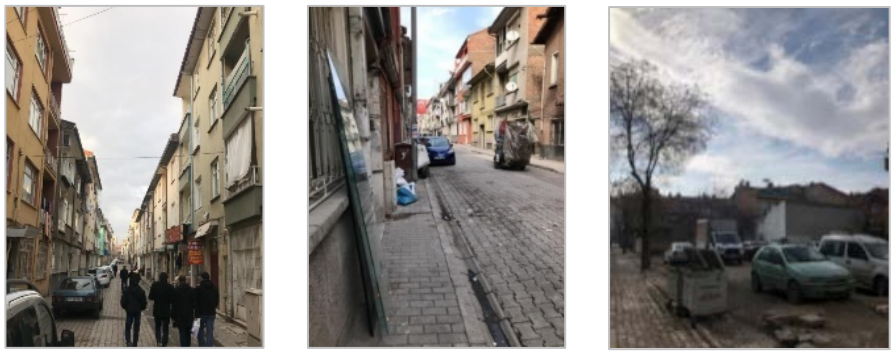


Figure 8. Examples showing the psychical disorder of the sample area

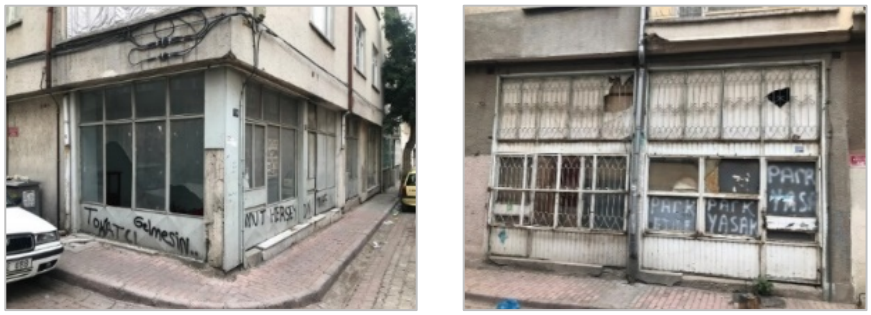


Figure 9. Vandalism acts in the area

Presence of lost spaces: The spaces defined by the back sides of the houses and the courtyards can be given as the examples of lost spaces in the neighborhood. There are isolated spaces, empty plots, and ruined structures among the buildings in the area. If the existence of such areas continues, these areas can attract the dwelling of the people with high crime potential. Such areas cause the feeling of insecurity and may pose a danger to the families living in the neighborhood (Figure 10).

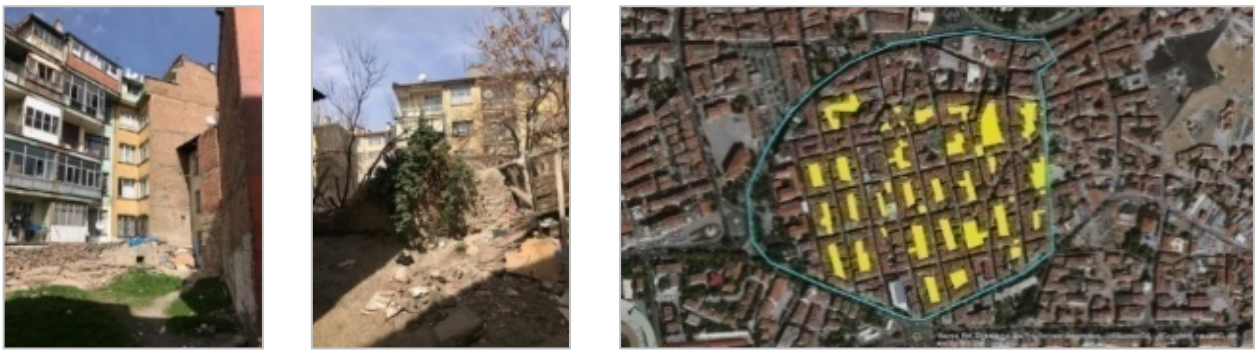


Figure 10. Examples for the lost spaces within the sample area

Easy wayfinding / Imageability

Addresses and numbering: In some parts of the area, there are enough sign and address indicators. This will enable people to find their direction easily. However, in some parts there are no indicators. (e.g., there is no sign indicating where the police station is located).

Perceivability, legibility and image of the area: Most of the buildings in the study area are of the same type and in a gridal texture. So, this situation makes it difficult for the people to find their way and direction easily,

especially for the individuals coming to the area for the first time. Some historical buildings that can be an important landmark have been hidden within the area and therefore they are generally far from the perceivability.

Spatial Layout

Permeability of the streets: The spatial layout of this neighborhood which is the first planned and regular district of Konya city is based on a grid form. There is no cul-de-sac formation within the neighborhood (Figure 1). This shows us that the permeability level of the streets is very high.

In addition to all these visual observations, according to the interviews with Konya Meram District Police Department; the police patrol and control the area in many parts at different times of the day and night. And there is a branch of Konya Public Security Directorate in the inner parts of the neighborhood, and there are private or public security camera systems at some points in the area.

Results of Social Environment Research

According to the information obtained from the interviews with the neighborhood headman and the residents of the area, residents of the neighborhood frequently experience disagreements between them. Most of these conflicts are about not being able to adapt to life in apartment buildings (*i.e., the shaking of tablecloths/carpets from the balcony, making noises, 20 people staying in small flats of 1 + 1 etc.*). Especially since immigrants came and settled in this neighborhood, it has been common to see many people (*sometimes 20 people*) staying in small flats. As mentioned before, a questionnaire application was conducted with a total of 109 users using the random sampling technique to obtain the opinions of those living in the area on the subject. The section below gives the results of this application.

Since the social-cultural analysis of the users living in the area constitutes a very important data in the settlements where crime is committed, the first part of the survey questions consists of searching of the user profile. By means of the questionnaire, the situations that the residents of the neighborhood experienced regarding security and crime, and the things they felt or knew about the place were questioned. The user profile of the survey application is given below (Table 2).

Table 2. User profile of the questionnaire application

Gender				**Number**			**Percentage (%)**	
	Male			82			75.2	
	Female			27			24.8	
Marital Status	Single			30			27.5	
	Married			79			72.5	
Age		20-30	31-40	41-50	51-60	61 and above	Total	
	Number	38	30	22	12	7	109	
	%	34.9	27.5	20.2	11.0	6.4	100	
Education		Illiterate	Literate	Elementary	Middle School	High School	University	MSc or Doctorate	Total
	Number	4	9	18	23	30	22	3	109
	(%)	3.7	8.3	16.5	21.1	27.5	20.2	2.8	100
Occupation		Laborer	Civil servant	Self employed	Retired	Student	House wife	Other	Total
	Number	27	15	24	8	8	15	11	109
	(%)	24.8	13.8	22.0	7.3	7.3	13.8	10.2	100
Income		1600 TL or more		1601-3500 TL		3501-5000 TL		5001-7000 TL	Total
	Number	13		54		39		3	109
	(%)	11.9		49.5		35.8		2.8	100
Housing Ownership				Number			Percentage (%)		
	Owner			60			55.0		
	Tenant			49			45.0		
	Total			109			100		

79.8 % of those who participated in the survey consisted of people who came from Konya's surrounding districts and villages and settled in this neighborhood. 20.2 % of the users (22 people) came from outside the province of Konya. Even though rurality sometimes positively affects neighborhood relations, some problems can be observed in the study area arising from urbanization.

According to the results regarding the duration of living in the neighborhood, 19.3 % of the participants (21 people) stated that they lived in this neighborhood for a period of 1-5 years, and 11 % (12 people) for 26 years or more. The long duration of living in the neighborhood can create an effect that can reduce the risk of crime in terms of ownership of the area and the development of a sense of belonging. As can be understood from Table 3, approximately 40 % of the users have been living here for a maximum of 10 years, and approximately 20% for a maximum of 5 years (Table 3).

Table 3. The users' duration of living in the neighborhood

Duration	**Number**	**Percentage (%)**
1-5	21	19.3
6-10	22	20.2
11-15	27	24.8
16-20	13	11.9
21-25	12	11
26 years or longer	12	11
Total	109	100

Approximately 40 % of the respondents stated that they lived in this area for economic concerns. The fact that the area is in the city center and close to workplaces is among the other reasons for living in the area. We can see that the ratio decreases considerably when it comes to neighborhood relations and a sense of belonging to the area (Table 4).

Table 4. The users**'** reasons for living in the neighborhood

Reasons	**Number**	**Percentage (%)**
Suitable for my economic situation	43	39.4
Close to my work / school	27	24.8
Located in the center of the city	27	24.8
Because I feel like I belong here	8	7.3
I have good neighborly relations	1	0.9
Other	3	2.8
Total	109	100

In the next stage, the participants were asked to state three things they liked and disliked in the neighborhood. The table below shows the first three characteristics obtained after a classification of the answers given (Table 5).

Table 5. Features that users liked and disliked in the neighborhood

Liked Features		Disliked Features	
Everything is within walking distance, easy to access	%80	Absence of parking lots	%94
Easy transportation opportunity	%78	An outsider's parking in the neighborhood	%87
Affordable rent price	%64	Presence of people from different ethnic groups	%85
Located in the city center	%55	Darkness at night	%77
Close to work	%54	Cars parked in front of one's house, cars being everywhere	%76
I know everyone	%54	Annoying levels of noise	%74
Narrow roads, no traffic	%47	Increase in crime	%73
Low-rise housing	%46	High number of people living in a house	%65
My own house	%32	Disposal of waste in the streets	%64
Presence of patrol	%23	Presence of vacant buildings and spaces	%63
Quiet	%22	Presence of casino	%62
Neighborhood relations	%21	Buildings are old and neglected	%56
		Lack of neighborhood relations	%56
		Lack of playgrounds for children	%54
		Lack of green spaces	%46

	Narrow streets	%45
	The people living in the neighborhood	%45
	Backyards of houses have become garbage dumping grounds	%35
	Change in the neighborhood environment compared with the past	%35
	Nasty and disturbing stares	%34
	Lack of social activities	%34

According to the results, the characteristics of the neighborhood disliked by the respondents seem to outweigh the ones liked by them. The lack of parking lots in the neighborhood is the most disliked feature. People other than those living in the area come to the city center and park their cars on the streets in the neighborhood and therefore foreigners are everywhere in the neighborhood, which is seen as a huge problem. Another issue that the participants do not like and are uneasy about is that people from different ethnic backgrounds have recently started to live in the neighborhood. For this reason, they stated that the neighborhood relations in the area were weakened. When other disliked features are considered, it is seen that most of them are related to the lack of social activities and active places. The casino in the neighborhood is among the features that disturb and are disliked by people at night (Table 5).

Another issue that was tried to be understood within the scope of the survey was related to the crimes in the neighborhood. Therefore, to the best of the users' knowledge, it was questioned what kind of crimes were committed more frequently in the study area. According to the results, the most common type of crime is burglary (36.7 %- 40 people), followed by pickpocketing with a rate of 15.6 % (17 people) (Table 6). Participants associate this situation with the high number of foreigners entering and exiting the neighborhood due to its proximity to the city center and therefore they do not feel safe.

Table 6. Distribution of types of crimes committed in the neighborhood according to user accounts

	Number	**Percentage (%)**
Burglary	40	36.7
Theft at workplace	9	8.3
Theft from automobile	8	7.3
Auto theft	4	3.7
Purse-snatching	15	13.8
Pickpocketing	17	15.6
Mugging	2	1.8
Drug trafficking	1	.9
Other	13	11.9
Total	109	100.0

In the next step, day and night security situation of the neighborhood was examined. For this purpose, the users were asked "If we ask you to evaluate the environment you live in (places within walking distance) in terms of safety during day and night hours, how would you define it?". While 19.3 % of the participants (21 people) think that the neighborhood is a safe place during the day, this rate drops to 1.8 % (2 people) when night safety is questioned. The results obtained can be seen in the table below (Table 7).

Table 7. Users' day and night sense of safety at the neighborhood

	NIGHT		**DAY**	
	Number	Percentage (%)	Number	Percentage (%)
I think it is a pretty safe place.	2	1.8	21	19.3
I'm not sure; sometimes it feels safe, sometimes it is unsafe	46	42.2	60	55.0
It's an absolutely unsafe place	50	45.9	19	17.4
I have no idea	11	10.1	9	8.3
Total	109	100.0	109	100.0

To determine whether there was a user who was subjected to a crime in the study area, a question was asked to the participants in this regard, and if there was, what crime and where they experienced it. 14.7% of the participants (16 people) were subjected to a crime (Table 8). In other words, it can be said that approximately 15 out of every 100 people were subjected to a crime. This is a very high rate. The types of crimes suffered by those who were subjected to crimes include theft, sexual harassment, individual maltreatment, and parking lot fights. These crimes were usually committed in the inner parts of the neighborhood.

Table 8. The users' status of being subjected to crime and the types of crimes they were subjected to

	Number	**Percentage (%)**
Yes	16	14.7
No	93	85.3
Total	109	100.0

Type of crime	**Number**	**Percentage (%)**
Burglary	40	36.7
Theft at workplace	9	8.3
Theft from automobile	8	7.3
Automobile theft	4	3.7
Purse-snatching	15	13.8
Pickpocketing	17	15.6
Mugging	2	1.8
Drug trafficking	1	0.9
Other	13	11.9
Total	109	100.0

The opinions of men and women about safety in the neighborhood both at home and while walking on the street were questioned in the questionnaire application and the results are given in the tables below. As can be understood from the tables, it is observed that the feeling of insecurity is more dominant in this neighborhood, whether at home or on the street, and women are more exposed to this situation than men (Table 9, Table 10).

Table 9. The relationship between feeling safe at home day and night and gender

Gender	**Feeling safe when alone at home at night**						Total	
	I feel safe		**Sometimes I feel safe, sometimes not**		**I feel unsafe**			
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Male	35	42.6	40	48.7	7	8.5	82	100
Female	0	0	12	44.4	15	55.5	27	100
Total	35		52		22		109	

Table 10. The relationship between feeling safe on the street day and night and gender

Gender	**Feeling safe when walking on the street**				**Total**	
	YES		**NO**			
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Male	66	80.4	16	19.6	82	100
Female	9	33.3	18	66.6	27	100
Total	75		34		109	

GENERAL EVALUATION AND CONCLUSION

Reasons such as rapid urbanization, globalization, the phenomenon of modernism and accompanying problems like migration, unemployment, poverty, deprivation, class and spatial segregation, inequalities in income distribution, ethnic-class differences, decrease in social control, and the emergence of places that can provide opportunities for crime caused by deterioration in the urban environment cause cities to turn into places of crime. Based on this, it is seen that the phenomenon of crime is too complex to be reduced to a single cause. This study mainly approached the subject in its spatial dimension, by presenting spatial solutions of preventing crime and fear of crime. As a result of the research conducted, it is seen that successful crime prevention efforts

in a spatial sense will encourage a safer environment by increasing the attitudes and behaviors that help people feel safe.

Sahibata Neighborhood, which was chosen as the study area, is located in the city center of Konya and has an important position due to its proximity to the historical core of the city. The high crime rate of such an area in the city is negative in terms of the image and identity of the city. Therefore, the present study seems important in that it will at least help planners and designers understand what can be done physically in this regard. It cannot be said that Sahibata Neighborhood yields very positive results as a consequence of the evaluation of the design factors that are effective in preventing crime through visual evaluations made within the scope of the study. Indeed, the lighting in the area is not at a level that will create a sense of security at night. It is especially important to illuminate the areas identified as lost places within the scope of the study.

There are dysfunctional, unused, abandoned, and vacant buildings and lost spaces at many points in the area. Considering that such lost spaces are places that encourage crime, the necessity of re-functioning and regaining them to the city becomes more evident. There is not enough variety of functions in the neighborhood that will ensure vitality, and hence natural surveillance. There are no areas that can be used actively such as an open-green space or a children's garden that will promote communication between people, enable them to chat and get to know each other. At this point, the lost places should be evaluated. It will also be a positive step in terms of the security of the place. Consequently, the spaces that have been regained to the city can be activity generators and the sense of security can be increased. There is no visible element that can refer to the space in terms of the legibility and perceivability of the space. Structures and spaces that can provide this feature at present have remained hidden corners, out of sight, between the vehicles and apartment buildings parked on the street. In a sense, the fact that they have remained concealed may lend a positive characteristic to the place, but they do not provide users with a sense of security. The fact that each building is similar to the other, that the neighborhood is located in a grid form and direction signs can be barely perceived also triggers this situation.

Another example of neglect and lack of control in the neighborhood is the acts of vandalism witnessed in the area. Graffiti written on the walls and situations such as damage to private or public property are the best indicators of this. Many such examples are encountered in the area. As stated in the Broken Windows Theory, the repair and control of the space are important interventions that will prevent the criminals from committing crimes. There are non-transparent areas that are obscure and surrounded by deaf facades, where there is no entrance, and natural surveillance cannot be provided. The existence of such places makes it easier for criminals to commit an offense. In this framework, the high walls built by private properties to ensure their own security threaten the security in the public space. Designing such separators in a transparent way (such as having windows, having fences that allow seeing through instead of high walls), and coloring very high deaf facades with artistic details can be interventions that increase the feeling of safety for the user.

Neighborhood relations can be evaluated as weak in the neighborhood due to the presence of people who do not know each other, who migrated to the area recently, who have different ethnic origins, and due to the absence of places that would enable people living in them to come together. At this point, it seems beneficial to create activity generators and areas that can be used by people of all ages. This can also be an opportunity to bring people from different cultures together and increase the sense of ownership of the space. The vitality of a space also means that that space is in use and successful. When the neighborhood is considered in this sense, it is observed that there are no useful or attractive structures or streets that will encourage walking and exploring. Since there is no place that supports walking, stopping to rest and watching, this neighborhood is generally used as a transition area. According to the observations made, there is no spatial indication of belonging to the area and a sense of ownership. The fact that the area is in a state of constant neglect, heaps of garbage are thrown in front of the doors, there are no users demanding that the broken lighting appliances be repaired, insensitivity is rampant, and there is no reaction to the graffiti painted on the walls are indicators that this area is not an area owned by many. For, the sense of belonging and ownership leads an environment to be clean, and people to be sensitive it.

The variety of functions and the level of mixed use are very limited in this neighborhood. There is no function in the area other than housing and partially commercial functions. For this reason, it is seen that it is a rather

isolated place in the city center, and it has become an area where individuals coming downtown meet their parking needs. This situation manifests itself in the occupation of the sidewalks in the study reserved for pedestrians by vehicles area. Thus, it becomes easier for "foreigners" to enter the area continuously. Besides its negative qualities, the neighborhood also possesses some favorable features. For example, it does not have very high-rise buildings. Due to the balance of road width-building height ratio, there are no dark areas during the daytime. The presence of a police station and patrol teams in the neighborhood are also positive features.

The factors mentioned above are factors that should be considered as a tool in combating urban crimes, from upper scale planning decisions to urban design scale. It is one of the issues to be avoided that the majority of the neighborhood is reserved for residential areas, that is, zoning with a single function. Naturally, non-spatial problems should not be ignored, either regarding crime. Making the urban space the priority of the user profile living there, embracing the public space, creating a feeling of belonging, having considerations like aesthetics etc. may take a long process. However, it seems that some of the current problems of the neighborhood can be solved in the short term in terms of urban design. The suggestions for solution proposed within the scope of the study are actually of the type that can be solved with minor physical interventions. However, it is clear that the issue cannot be solved completely on a spatial scale, that it can be solved only to a certain extent through urban design, and that the issue has dimensions that need to be considered in the long term in social and economic contexts. Improving environmental factors will reduce the potential for crime in the space and the fear of crime felt in the space (Van Den Berg et al., 2006), but it will be insufficient to deal with problems alone. Therefore, it is necessary to act with a holistic approach in the fight against urban deterioration. It is thought that minor changes to be made with the correct use of the design factors discussed in the Sahibata Neighborhood can create a synergy and an effect in the neighborhood and allow people to feel belonging to the space even more in the new environment. This will, in turn, affect the entire city life and contribute to the creation of new, more livable urban spaces.

In conclusion, while Sahibata Neighborhood was one of the favorite neighborhoods in the city of Konya in the past with its well-planned urban design and strong neighborhood relations, it has started to show signs of gradually becoming a decaying area today with the aging of the physical elements and infrastructure. If the design interventions discussed within the scope of the study can be implemented in a timely manner, and if the area can be handled by taking just an improvement decision without declaring it as an “urban transformation” area, this neighborhood will be a much more successful neighborhood in terms of sustainability and livability. As mentioned above, preventing crime and the perception of crime in an urban space will not be possible only with the correct use of the design features of the physical space. It is an undeniable fact that the subject has political, sociological, and psychological dimensions such as unemployment, poverty, class discrimination, cultural differences, political factors, apart from physical space design. If future studies add these dimensions to spatial evaluations, more holistic results can be achieved. In addition, in this study, there were limitations in taking data due to some security measurements. Thus, the subject was examined with headman interviews, user perception and visual observations. It is thought that this study is a positive step for the future, especially for the Sahibata neighborhood and we believe that in future studies, clearer analyzes can be made with the active participation of security units.

Authors' Contributions

The authors contributed equally to the study.

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Not applicable.

Competing Interests

There is no potential conflict of interest.

Ethics Committee Declaration

This study does not require ethics committee approval.

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Figure References

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