CORRELATION OF NEIGHBORHOOD UNIT DESIGN WITH URBAN HEALTH

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ABSTRACT

With the urbanization process, that gained speed after the Industrial Revolution, urban settlements received intense migration, thus living conditions in cities became more difficult. The fact that the urbanization process cannot develop in a controlled manner and the pressure created by the population in the city has led to the formation of unhealthy living environments and problems that threaten the health of the city. Health is complete well-being of physicallity, mentality and society. Therefore, health is highly associated with environmental factors as well as genetic and individual factors. Urban health is the product of many factors that can affect health, such as living conditions and economic factors, social services and sociocultural environment, built environment, quality of infrastructure services and their accessibility. The environment built from these factors has a direct impact on the health and on the life of individuals, but it is also an important determinant of urban health. The fact that the built environment is a determinant of urban health shows that the city planning discipline can play an active role in improving urban health. Because urban planning manages the formation of living environment features, which is one of the factors affecting urban health. The purpose of this study is to assess the impacts of the problems arising from the urbanization process on urban health in Turkey and to reveal the relationship of urban health with neighborhood unit design and the built environment in the light of literature. For this purpose, this study examines the existing relational solutions and multidimensional theoretical approaches by analyzing the relationship between urban health and the built environment with a comprehensive literature review. Increasing the welfare of people and the entire ecosystem and designing high-quality environments by creating healthy urban living environments in a rapidly urbanizing world should be among the main goals. The realization of these objectives will be achieved through exploration of the urban health's relation with built environment

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and neighborhood urban design also through awareness of the integration of the urban health with urban planning policies and urban design principles.

Keywords: Urban, Urbanization, Quality of Life, Urban Health

1. INTRODUCTION

Urbanization can be defined as a dimension of the social change process (Es and Ates, 2010: 212), resulting in the increase in the number of cities and the growth of cities (Keles, 1995:1). The urbanization process, which has enabled the cities to grow physically and demographically, and prepared an environment for more than half of the world population today, had advantages as well as disadvantages for cities and those living in the city. Economic, social and environmental problems occurring under the effect of unplanned urbanization in developing countries have also reduced the quality of living conditions. According to Basaran (2007: 209), the issue of how to create healthy living conditions in an urbanized world is the common agenda of the world today.

According to the World Health Organization (WHO) definition, "health is not only the absence of disease or disability, but a physical, mental and social well-being" (WHO, 1946). Urban health is also the product of many environmental factors, each of which can affect the general health of the individual. "Urban health is directly related to the urban context itself in relation to the emergence of determinants of health and disease in urban areas" (Galea and Vlahov, 2005: 342). Based on these definitions, it is safe to say that human health is shaped by not only individual and genetic determinants but also by environmental determinants and there is a close relationship between urban space and health. According to Başaran (2007: 209), the social and physical environment and life styles of the people are the main determinants of health. For this reason, urban structure and physical environment quality form the basis for human health.

One of the factors affecting human health is the built environment and neighborhood units that contain environmental determinants. According to Sallis et al. (2012: 729), changing the built environment has the potential to have a long-term impact on health and welfare at the population level. Many problems related to the built environment, such as unplanned construction, rapid increase in housing density, air pollution, noise, water and soil pollution, vehicle and traffic density, and insufficiency of physical activity areas and open-green areas, have an impact on physical and mental health. At the same time, the quality of urban life associated with the level of satisfaction and wellbeing in the living environment is also negatively affected by these environmental problems.

The research aims to evaluate the urban health consequences of urbanization and the effects of neighborhood and built environmental design on urban health

in order to shed light on the formation of high quality living and healthy spatial environments. The main objectives of the research are to reveal that the physical and environmental characteristics of the built environment have an impact on urban and urban health, and the necessity of integrating urban health with urban planning and urban design. The research aims to contribute to the literature from two aspects. Firstly, an inference is made about the relationship between urbanization and health by linking the problems of urbanization with the health of the citizens. Secondly, taking into account the built environment and socioeconomic characteristics that may affect the health of urban residents, it relates the built environment characteristics to urban health and goes beyond previous studies.

In summary, as a result of the acceleration of urbanization movements, today more than half of the world population lives in cities. Urban health and urban life quality have started to be at risk with the uncontrolled increase of population and housing in cities. It is possible to change the effects of the built environment on human health and urban life quality, primarily by changing that environment. Neighborhood units, which are accepted as the basic settlement unit that will be designed through urban planning policies and urban design principles prepared by considering the health of the city and urban life, will constitute the basic step in the transformation of the built environments into healthy living environments.

2. CONCEPTUAL FRAMEWORK

In this section, urbanization and urban health concepts will be examined. Then the results brought about by the urbanization process in Turkey will be associated with urban health.

2.1. Conceptually Urbanization and Urban Health

City is generally considered as "a settlement or a place that concretely contains the basic references and relationships on which a civilization is based" (Yılmaz and Citci, 2011: 255). The cities mostly remained as a minority experience from their first appearance to the Industrial Revolution, and have undergone little transformation in terms of functionality and structure until industrialization (Yılmaz, 2004: 252). After the Industrial Revolution, the urbanization process has started with the migration of the population in rural settlements to cities and the cities have undergone structural and functional transformations.

According to Keles (1995: 1); "urbanization is a population accumulation process that, in a broad sense, results in the increase in the number of cities in parallel with industrialization and economic development, and the growth of today's cities, creating city-specific changes in people's behavior and relations, creating

an increasing number of organizations, division of labor and specialization". This multi-faceted change process has affected cities and societies physically, socially, economically and culturally. At the same time, life styles, quality of life and health levels of the citizens have changed positively or negatively.

Health is a concept that has different definitions by many researchers but still has no consensus definition in the literature. According to the World Health Organization definition, health is not just the absence of disease or disability; is a state of physical, mental and social well-being. According to this definition, the health of an individual is shaped by environmental factors independent of genetic factors. Because health is not only a function of the individual's biological features, it is also a phenomenon that is naturally constructed and deeply affected by interactions with social environments (Glouberman, vd. 2006: 327).

Urban health is defined as the study of the characteristics of the social and physical environment that can affect health and diseases in the urban context and the urban characteristics that make up the character of the city (Ompad vd., 2017: 311). In other words, urban health is the projection of health in urban space. Health and city are two phenomena that mutually affect each other, and city health is a concept that discusses the effects of urban space on health. A healthy city is not a city that has reached a certain level of health, but a city that carries out the necessary studies and takes precautions to be a healthy and livable city (Basaran, 2007: 208). City planning is the basic discipline that can lead the success of healthy urban studies, as it manages the urban characteristics that make up the character of the city. Every decision affecting the city and the place affects the health of the city and its inhabitants. The urbanization process and its consequences, which have been still active since the Industrial Revolution, have affected and continue to affect urban health in this respect.

2.2. Results Relating to Urban Health Urbanization in Turkey

The urbanization process, which started with the rapid increase of the population in the cities, caused social, economic and cultural changes in the society, and created spatial and environmental changes in the cities. These changes have affected cities and societies pomelissitively and sometimes negatively.

The rapid growth of the population in the cities has prepared an environment for economic problems to occur. Unemployment, cross-sectorial imbalances (Es and Ates, 2010: 218) and the increase in income level are the main problems of urbanization. According to TUIK data, in 2018, the unemployment rate for the population aged 15-64 in Turkey is 11.2%, and the same age employment rate is 52% (TUIK, 2020). However, only 7% of the employed population is satisfied with their jobs and 2.28% are satisfied with their monthly income (TUIK, 2020). The

high level of unemployment and low satisfaction with the income earned by the job, directly affects the social and economic life of the person, while directly affecting life satisfaction, quality of life and individual health. Because general health and quality of life are cases that cannot be evaluated independently of economic welfare. According to the World Health Organization Healthy Cities Project, reducing unemployment and poverty is among the main targets for a healthy city to be established (Gurel Ucer, 2009: 33).

The emergent problems of urbanization can be exemplified with; increase in social discrimination, cultural alteration, unplanned urbanization, poverty, increasing number in crime, insufficient infrastructure, unbalance income distribution, decrease in sense of security. According to TUIK only 6% of the Turkish citizens are content with their residence, only 7% of the population are content with their neighborhood also only %6 of the citizens are content with their neighbor (TUIK, 2020). However in 2004 these rates were 14%, 9.55% and 12.55, respectively (TUIK, 2020). The level of satisfaction decreasement is directly related to health, social relations. This means urban health in Turkey has been affected negatively in the last 15 years. Since many of the problems mentioned are related to the socioeconomic determinants of health, they directly affect human health and therefore urban health. Because of the health of people living in cities, living and working conditions; from the physical and socioeconomic environment; it is affected by the quality and accessibility of care services (Basaran, 2007:211).

The distribution of income and socioeconomic development differences between people migrating to the cities and urbanites has been one of the social problems that accompany urbanization. Today, socioeconomic development differences are still one of the determinants affecting the social structure and the quality of life of the citizens.

Another big problem caused by urbanization is the insufficiency of the *housing stock*. The amount of housing available in the cities in 1950 and beyond was not sufficient for the migrating population. For this reason, people applied solutions the housing problem with their own methods and built their own houses illegally. "Slum" style houses, which are still a big problem for our cities, have been built and the problem of urbanization has become a difficult problem. The fact that this process was not controlled by state policies allowed the living conditions in cities to increase and social inequalities increased. Urban residents who live their lives in illegally built dwellings have not been able to benefit from the infrastructure services sufficiently, therefore urbanization has also caused the problem of *insufficient infrastructure and public services.* According to 2004 and 2019 TUIK data, there is a general decrease in the satisfaction of residents from public order services, transportation services, municipal public transportation

services, municipal services such as road and sidewalk construction, garbage collection and sewage (TUIK, 2020).

One of the elements that urbanization affects and changes the most is *the built environment*. Changing the built environment directly affects the lives and health of the people living in it. According to Morley (2005: 76), the increase in industrialisation and continuous development has affected the cities, the shape of the cities and the quality of life of the people living in them. With the increase of the population in the cities, unplanned living environments have been formed. This situation has caused the destruction of the physical environment and has greatly affected the quality of life of the city's inhabitants and the urban immigrants. According to the World Health Organization Healthy Cities Project, one of the primary goals for a healthy city is the creation of healthy living environments. Urbanization in developing countries such as Turkey, after moving away from the goal of designing a healthy living environment has led to the decline of urban health.

The rapid spread of the population, unplanned construction and technology, and the increase in the use of individual vehicles in the cities have caused major problems that cities and the ecosystem may face, such as *air pollution, water pollution and noise*. At the same time, problems that decrease the quality of life such as *physical activation areas per person, light-green areas and socio-cultural spaces* are insufficient with the rapid increase of population and housing.

All of these problems caused by urbanization are problems that seriously affect the quality of urban life and urban health, and the physical and mental health of urban residents. It is not possible to evaluate urban health and quality of life separately from these problems. The socioeconomic determinants affecting the health of the citizens and the determinants to be evaluated together with the built environmental characteristics are not independent of the problems caused by urbanization. Therefore, it would be a correct approach to mention that the built environment affects the quality of urban life and urban health and to address the problems caused by urbanization while doing so. "Van Kamp (2003) has stated that, concepts such as satisfaction with the residential environment, housing and living spaces, quality of life, property, human welfare, livability and environmental quality are sometimes used interchangeably and sometimes together and has focused on the relationship between the quality of residential environment and human welfare" (Salihoğlu ve Türkoğlu, 2019: 205). In the next part of the study, the relationship between built environment and urban health will be handled together with the approaches on urban health in the literature, and the effects of the built environment on city health at the neighborhood unit level will be evaluated.

3. BUILT ENVIRONMENT AND URBAN HEALTH RELATIONSHIP

The number of cities in Turkey and all over the world has increased with urbanization and the built environment quantity. As mentioned in the previous section, the problems brought about by urbanization affect urban health and quality of urban life. Health; it is shaped by many forces, especially demographic change, rapid urbanization, climate change and globalization (WHO, 2013). It is acknowledged that the majority of the population lives in cities, with many advantages and disadvantages. The current issue on the agenda is how to manage cities and other human settlements and create healthy living conditions in an increasingly urbanized world (Basaran, 2007: 209).

According to the World Health Organization's definition of health, it is understood that health is related to social and environmental factors independently of individual and genetic factors. The built environment in which the person lives is very much in terms of feeling good physically, mentally and socially. The built environment is defined as human-made areas where people live, work and recreate daily. The built environment is also considered a basis for health and wellness (Renald, et al. 2010: 68). Social and physical environment and life style of the people are the main determinants of their health status.

Table 1. Determinants Affecting Health
(It was created by the authors in the light of literature reviews, 2020).

Health Status Determinants			
Biological Determinants	Socio-Economic Determinants	Environmental Determinants	Accessibility to Services
-Genetics -Age -Gender -Alcohol, cigarettes etc. harmful substance use	-Poverty -Unemployment -Working conditions -Social Exclusion -Income rate -Spatial -Decomposition -Security -Sensation -Belonging	-Air Quality -Housing Quality -Density of Housing -Water Quality -Clean Food -Noise -Social Environment **-Urban Design** -Street Network and Connections -Public Transport Network -Pedestrian, Bicycle and Disabled Trails -Green Area Presence -Traffic Density	-Education Services -Health Services -Social Services -Transportation -Public Transport -Commercial Area -Entertainment Physical -Activity Venues

"Table 1" shows the main determinants that have an impact on health status. As the study aims to evaluate the impact of the built environment and neighborhood design on urban health, environmental determinants, one of the health condition markers, form the basis of this research. The environmental features mentioned in Table 1 are the basis of the built environment. Although each of these features is related to the satisfaction of living environment and quality of life, it directly affects urban health. For example; environmental determinants such as air quality, water quality and noise can cause chronic health problems in individuals. According to a research conducted, noisy environments; it causes auditory and non-auditory problems such as premature death, cardiovascular diseases, sleep disturbance, cognitive problems, high blood pressure, mental health problems in children (Khreis, vd. 2016: 252). Housing quality, housing density and traffic density can cause stress-related discomfort in people. The high green area and physical activity areas encourage people to physical activity and combat obesity. At the same time, the green areas and physical activity areas are high and the presence of the water element causes the psychological disturbances to decrease.

According to Sallis et al., (2012: 729) changing the built environment has the potential to have a long-term impact on health and well-being at the population level. Because the built environment is considered a basis for health and wellness (Renald et al, 2010: 68). The change of the built environment by considering the health of the city should start with the design of neighborhood units at the neighborhood level. Because, neighborhood units are settlements where people spend most of their time and socialize, feel or do not belong, and have a profound effect on their physical and mental health. For this reason, by designing healthy neighborhood units, it is possible to improve the quality of life in cities and create healthy spaces, thereby improving urban health.

3.1. Urban Health at the Neighborhood Unit Level

The built environment is human-made spaces where people live, work and recreate daily (Renald, 2010: 68). The neighborhood, on the other hand, is an "important urban life organ" where people are brought together, connected and live together like all living organisms (Mumford, 1954). As understood from Mumford's definition of "urban life organ", the neighborhood is a very important settlement unit for people. Settlement, which is of great importance for people, has a great impact on human health. In other words, addressing health determinants at the neighborhood level is an important start for designing healthy neighborhood units in terms of city planning.

Table 2. Neighborhood Level Determinants Affecting Health (It was created by the authors in the light of literature reviews, 2020).

Health Determinants At The Neighborhood Level			
Density	Diversity	Accessibility	Environmental Determinants
-Density of Housing -Population Density -Land Use Density -Traffic Density	-Mixed Use (Commercial area, Housing, Social Facility etc.)	-Commercial Areas -Public Transport -Open Green Area -Recreation Areas -Physical Activity Area - Education - Health - City Center	- Security and Crime - Belonging - Urban Aesthetics - Bicycle, Pedestrian and Disabled Trails - Physical Activity Venues - Street Connection Features - Urban Transport and Traffic Safety - Noise - Air pollution - Water Item Presence - Housing Quality

The determinants of health at the neighborhood level shown in "Table 2" can also be considered as determinants of urban health. Because each of these determinants has an impact on the life and health of the citizens. If the health determinants at the neighborhood level will be examined in the light of the approaches on this issue;

- **Density:** Chu et al. (2004: 21) found that the researches on the size and planning of the urban dwellings concluded that the features such as smaller housing units, narrow streets, cul-de-sac create more sense of belonging. Evans et al. (2002: 526) showed that high-rise houses have negative mental effects on children and mothers due to lack of playground and social isolation. Based on these inferences, it is possible to say that the sense of belonging is higher and the level of health may be better in the low-rise and non-high-density residential fabric, thus in settlements with less population density. According to a study by Sullivian and Chang (2011: 109), households living in high-traffic streets have less social relationships with their neighbors. Considering that there is a direct proportion between sense of belonging and social participation and urban health, the low intensity according to the conclusions of Chu, Sullivian and

Chang, is the determinant of urban health. According to these studies, the neighborhood units; designing low housing and low population density and planning in a way not to allow high traffic density will make the citizens feel more belonging to their neighborhood. According to the research made by Sullivian and Chang (2011: 111); crowded and noisy places can have a number of negative consequences, ranging from psychological stress and even depression. In other words, the density of built environment has a direct relationship with urban health, well-being and mental health. The study of the city planning discipline, which provides density control of the physical environment, by taking into consideration the negative effects of density on urban health, will lead the design of healthy neighborhood units.

- **Diversity:** The high diversity of land use in the neighborhood unit is related to the high social participation in that settlement. The intense entertainment facilities, social facilities, commercial facilities, open-green areas, physical activity venues, etc. ensure that the residents use the neighborhood more actively and feel themselves belonging to the neighborhood. In this case, the diversity of land use in the neighborhood is also a determinant in the improvement of urban health.

- **Accessibility:** High accessibility to the functions that urbanites need to use and access continuously, such as commerce, housing, open-green space, entertainment, social space, education, health, encourages physical activity. At the same time, accessibility and belonging to the living environment, time spent here and social participation increase. Accessibility also increases the vitality of the space, since accessing a space also increases the usability of that space. This improves the quality of the designed urban spaces. In addition, high accessibility in urban space enables people to come together and develop social ties and increase social capital. It is possible that people who use these places are healthier and more physically and mentally healthy, regardless of genetic or individual factors. Therefore, there is a positive relationship between accessibility and urban satisfaction and the improvement of urban health.

- **Environmental Determinants:** *Crime* is one of the most frequently discussed urban issues that affect health. According to a study by Chu et al. (2004: 24), Keithley and Robinson (1999) found that crime has a significant impact on mental health. Research by Perkins, Meeks and Taylor (1992) found that fear of crime was significantly associated with increased levels of depression and anxiety over time. In addition to the individual socioeconomic factors, it has been determined that the disturbance in the neighborhood structure and some social environment elements associated with fear of crime are associated with mental

illnesses and the absence of safe common areas in the urban environment contributes to mental health problems (Melis et.al., 2015: 14900). Designing neighborhood units with principles that will not allow crime spaces to be created together with lighting systems, observation points, etc. will provide more reliable and sensible spaces.

Belonging; it is one of the most important social bonds that keep neighborhood units alive. According to a study by Melis et al. (2015: 14888), the resident environment has been found to have a stronger impact on the mental health of people who spend more time in the neighborhood. According to Sullivan and Chang (2011: 107), the extent to which an environment affects mental health depends on the match between the person and that environment. The more successful the match is, the more likely the individual is to live at a higher level of mental health and well-being. The fact that social participation is high in the designed neighborhood, there are places suitable for establishing neighborly relations and other social relations, and the density is not high enough to prevent social participation.

Spaces that promote *physical activity* prevent depression (Sullivan and Chang, 2011: 111). Spaces that promote physical activity at the same time provide the fight against obesity, which is one of the common diseases of today. The fact that physical activity venues are high also increases social participation in urban space. For this reason, the design of the neighborhoods to have a lot of physical activity areas directly affects the physical and mental health of the residents. It also enhances the sense of belonging to the neighborhood as it will increase social participation.

Current information on the health-related effects of *urban transport* shows that motor vehicle traffic causes significant death and illness due to traffic-related environmental exposures such as motor vehicle accidents, physical inactivity and *air pollution, noise, increase in temperature levels, and a decrease in the amount of green space* (Khreis vd., 2016: 252). Again, according to a study by Chu et al. (2004: 21), a systematic study by Thomson et al.(2001) reveals that interventions to improve housing have an impact on health. Evans et al. (2000: 530), on the other hand, found that housing quality is an important determinant of psychological distress, and psychological distress symptoms decrease as the quality of housing increases.

The urban planning discipline interferes with all the health determinants at the neighborhood level mentioned above. Because the determinants related to the built environment control the city planning discipline. Therefore, the city planning discipline can directly control the determinants of urban health. Making

neighborhood design designs by considering the determinants of health at the neighborhood level will prepare an environment for the cities to be planned more from the foundation and to improve the health of the city.

4. CONCLUSION

Urbanization movement, which showed its effect all around the world in different periods, started to emerge in Turkey in 1950. However, due to inability to manage the process with the right policies caused many problems. Among these problems; economic unemployment, sectoral imbalances, socioeconomic disparities can be given as examples. Socially housing problem, lack of infrastructure, low education level, problems that directly affect human health such as unplanned construction in the environmental sense, increased use of individual vehicles and construction, increased air pollution, increased water pollution and noise, uncontrolled increase in traffic, housing and population density, lack of social participation, physical activity and insufficient green areas are also among these problems. All and more of these problems negatively affect urban health and urban quality of life, and living conditions in cities become more and more difficult. Urban health is integrated with social and physical environment features that may affect health and diseases, and it is highly related to the built environment in that it contains the urban features that make up the character of the city. For this reason, changes in the built environment directly affect urban health. At the same time, the changes in the built environment are related to urban health and the built environment in terms of affecting the residents' satisfaction in the living environment and the health of the city is related to the life satisfaction of the citizens. According to the research findings, the fact that the city planning discipline manages the built environment and its features directly reveals that it also controls the urban health. Therefore, it is possible to change the negative effects of urbanization on health by planning healthy cities and make urbanization beneficial for all city users. Exploring the relationship between built environment and neighborhood unit design and urban health, and the awareness of the integration of urban health with urban planning policies and urban design principles will be the basis for designing healthy cities.

REFERENCE

BAŞARAN, I. (2007). Sağlıklı Kentler Kavramının Gelisiminde Sağlıklı Kentler Projesi*, Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi,* 3(9), 208-211.

CHU, A., THORNE, A. and GUITE, H. (2004). The İmpact on Mental Well-Being of the Urban and Physical Environment: An Assessment of The Evidence, *Journal of Mental Health Promotion*, 3(2), 21-24.

ES, M. and ATES, H. (2010). Kent Yönetimi, Kentlileşme ve Göç: Sorunlar ve Çözüm Önerileri, *Sosyal Siyaset Konferansları Dergisi*. 212.

EVANS, G.W, CHAN, E., WELLS, H. and SALTZMAN, H. (2000). Housing Quality and Mental Health, *Journal of Consulting and Clinical Psychology*, 68(3). 526-530.

GALEA, S. and VLAHOV, D. (2005). Urban Health: Evidence, Challenges, and Directions, *Annual Review of Public Health, (26)*. 342.

GLOUBERMAN, S., GEMAR, M., CAMPSIE, P., MILLER, G., ARMSTRONG, J., NEWMAN, C., SIOTIS, A., GROFF, P. (2006). A Framework for Improving Health in Cities: A Discussion Paper, *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 83(2). 327.

GUREL UCER, A. (2009). Kentsel Yaşam Kalitesinin Belediye Hizmetleri Kapsamında Belirlenmesine Ve Geliştirilmesine Yönelik Bir Yaklaşım: Orta Ölçekli Kent Örnekleri. *Gazi University Faculty of Science*, Published Thesis. 33.

KELES, R. (1995). Kentleşme ve Türkçe. *Dilbilim Araştırmaları, Ankara Üniversitesi.* 1-2.

KHREIS, H., WARSOW, K. M., VERLINGHIERI. E. and GUZMAN, A. (2016). The health impacts of traffic-related exposures in urban areas: Understanding real effects, underlying driving forces and co-producing future directions, *Journal of Transport & Health*, 3(3). 252.

MELIS, G., GELORMINO, E., MARRA, G., FERRACIN, E. and COSTA, G. (2015). The Effects of the Urban Built Environment on Mental Health: A Cohort Study in a Large Northern Italian City, *International Journal of Environmental Research and Public Health*, 12(11). 14888-14900.

MORLEY, I., (2005). Post-Industrial Urbanism and the Growth of Sustainability: Historical Trends, Present and Future Observations, *Journal of Futures Studies,* 9(4). 76.

MUMFORD, L. (1954). The Neighborhood and the Neighborhood Unit, *Town Planning Review,* 24 (4). 256–270.

OMPAD, D. C., GALEA, S. and VHALOV, D. (2017). Urban Health Systems: Overview, *International Encyclopedia of Public Health (Second Edition).* 311.

RENALDS, A., SMITH, T. H. and HALE, P. J. (2010). A Systematic Review of Built Environment and Health, *Fam Community Health,* 33(1). 68.

SALIHLIOGLU, T. and TURKOGLU, H. (2019). Residential Environment and Quality of Urban Life, *Megaron*, 14. 205.

SALLIS, J. F., FLOYD, M.F., RODRIGUEZ, D.A. and SAELENS, B.E. (2012). Role of Built Environments in Physical Activity, Obesity, and Cardiovascular Disease, *Circulation,* 125(5). 729

SULLIVAN, W.C. and CHANG, C.Y. (2011). Mental Health and the Built Environment, *Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability*. 107-111.

YILMAZ, E. and CİTCİ, S. (2011). Kentlerin Ortaya Çıkışı Ve Sosyo-Politik Açıdan Türkiye'de Kentleşme Dönemleri, *Electronic Journal of Social Sciences*, 35(10). 255.

YILMAZ, N. (2004). Farklılaştıran Ve Ayrıştıran Bir Mekanizma Olarak Kentleşme, *Sosyal Siyaset Konferansları Dergisi*, 48. 252.

WORLD HEALTH ORGANIZATION (1946), Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June 1946, and entered into force on 7 April 1948.

WORLD HEALTH ORGANIZATION (2013). The Helsinki Statement on Health in All Policies. *The 8th Global Conference on Health Promotion, Helsinki, Finland, 10-14 June 2013*. (pg. 1).

TUIK, (2020). URL: https://biruni.tuik.gov.tr/medas/?kn=100&locale=tr