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# Social Relationship Between Urban Living Characteristics and Social Determinants of Population Health

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## Abstract

Urban residence exposes populations to environmental conditions that differ fundamentally from rural settings. Air pollution, noise, heat islands, and limited green space characterize the physical environment of cities. Transportation systems oriented toward motor vehicles reduce physical activity while increasing pollution exposure and injury risk. Social structures of urban areas with anonymity and heterogeneity contribute to loneliness and mental health disorders. Socioeconomic inequality produces a systematic health gradient disadvantaging poor urban residents. Food systems dominated by processed products drive obesity and metabolic disease epidemics. Governance fragmentation prevents coordinated policy responses across housing, transport, environment, and health sectors. This qualitative literature study examines mechanisms linking urban living characteristics to population health outcomes. Analysis reveals that health supportive urban design requires integrating knowledge from multiple disciplines.

Keyword: urban environment, social determinants, population health, city planning, environmental exposure

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## Introduction

Urbanization processes occur as a consequence of industrialization and modernization, reshaping the spatial distribution of the human population. The mass migration from rural to urban areas has persisted throughout the twentieth century and continues today. Cities offer access to employment, education, and services that are relatively more comprehensive than those in rural areas. The hope for an improved quality of life is the primary driver behind the decisions of individuals and families to migrate to urban regions. This change is often viewed as a major step forward, yet the challenge of building social harmony in urban environments is not easily overcome (Mardikaningsih, 2021). However, high population density in cities creates various consequences for collective living conditions. Limited public spaces must accommodate a growing number of people every year. Available infrastructure is often unable to keep pace with the speed of urban population growth. The gap between facility availability and the number of users creates pressure on various service systems. The quality of the urban environment undergoes degradation due to intensive and sustained human activity. Urban consumption and production patterns generate a significant pollution load on the air, water, and soil (Pandit & Sharma, 2022). Therefore, firm law enforcement and environmental management are essential to ensure the quality of life for residents is maintained (Nuraini et al., 2021). This fundamental change in how humans live, work, and interact brings implications for the health status of the population.

Urban settlements are characterized by high building and human density within limited geographical areas (Kuddus et al., 2020). These physical characteristics create environments with limited air circulation and the rapid accumulation of pollutants. Mass transportation powered by fossil fuels serves as the backbone of urban mobility. Motor vehicle emissions release fine particles and toxic gases into the air breathed by millions of residents. Industrial zones located within or near residential areas exacerbate the daily air pollution burden. Urban air quality is consistently at unhealthy levels according to various international standards. Air pollution has been epidemiologically proven to be a risk factor for various respiratory and cardiovascular diseases. Urban dwellers

spend most of their time indoors, which also possesses its own levels of pollution. These concerning environmental conditions demand more creativity from us, for example, by utilizing waste through recycling to maintain the aesthetic of our living spaces (Nurmalasari & Mardikaningsih, 2022). Poor building ventilation and the use of household chemicals add to the complexity of pollutant exposure. Children and the elderly in urban areas face higher health risks due to their physiological vulnerability to pollution. Health systems in urban regions must bear the additional burden of disease cases related to environmental quality.

Urban transportation systems affect not only air quality but also the physical activity patterns of the residents (Akerman et al., 2018). City designs oriented toward motor vehicles reduce space for walking and cycling. The distance between residences, workplaces, and public facilities is becoming increasingly vast due to urban expansion. Dependency on private vehicles or public transportation leads to a decrease in daily physical activity. A sedentary lifestyle or lack of movement is a major risk factor for various metabolic diseases. This becomes a serious issue because public satisfaction with general healthcare services depends heavily on how well those facilities handle the impacts of this lifestyle (Khayru & Issalillah, 2022). Obesity, type 2 diabetes mellitus, and hypertension show higher prevalence in urban populations. The limitation of green open spaces in cities also reduces opportunities for physical recreation in nature. City parks and pedestrian paths are often not designed with the physical activity needs of residents in mind. The safety of pedestrians and cyclists on urban roads is a serious concern due to high vehicle volumes. The lack of affordable sports facilities in densely populated settlements limits residents' options for exercise. Collective awareness within society is greatly needed to improve this situation through real action and social solidarity (Saputra & Darmawan, 2021). Urban movement patterns systematically drive residents toward a physically inactive lifestyle. Changes in city design that prioritize active mobility could correct these trends that are detrimental to health.

The social structure of urban life is fundamentally different from relatively homogeneous rural communities. Cities house populations with diverse ethnic backgrounds, economic classes, and lifestyles within limited

spaces (Mahmudah, 2022). This diversity can create social tensions that potentially affect the mental health of residents. Anonymity in urban social relationships reduces the social support available when individuals experience difficulties. Amidst these rapid social changes, maintaining intergenerational family harmony becomes a particular challenge for urban society (Sulistyo, 2022). Social networks in densely populated residential environments are often shallow and do not provide a sense of psychological security. The individualism that develops in urban societies correlates with a high prevalence of loneliness and social isolation. Loneliness has been recognized as an independent risk factor for various physical and mental health conditions. The daily stress levels of urban residents tend to be higher due to life pressures, noise, and density. Chronic stress affects the endocrine system and body immunity, thereby increasing vulnerability to disease. Anxiety disorders and depression show a consistently higher prevalence in urban areas (Lederbogen et al., 2011). These mental health issues are often exacerbated by stigma within the family, necessitating stronger legal protection for sufferers (Zahid et al., 2022). Mental health services in cities are often insufficient to meet the needs of a large population. The relationship between urban social structure and mental health requires serious attention from policymakers.

Socio-economic inequality in urban areas creates sharp health gradients between population groups. Cities provide vast economic opportunities, but the distribution of development benefits is highly uneven. Slum settlements with poor sanitation and extreme density become homes for millions of poor city dwellers. Access to clean water and proper waste disposal remains an issue in many urban areas of developing countries. Communities living near waste disposal sites often bear a much heavier health burden due to environmental injustice (Issalillah & Mardikaningsih, 2022). Environment-based diseases such as diarrhea and acute respiratory infections are still endemic in urban slums (Ezeh et al., 2017). The urban poor face a double burden of infectious and non-communicable diseases simultaneously. The high cost of living in cities forces poor families to sacrifice expenditures on nutritious food and healthcare services. Slums are often located in high-risk areas such as riverbanks or near garbage dumps. The risk of disasters like floods and landslides is higher in informal urban settlements. The health gap between

the wealthy and the poor in cities tends to widen alongside economic growth. To address this inequality, the political participation of citizens through various civil movements becomes crucial in advocating for justice (Rojak et al., 2021). These conditions create social determinants of health that work systematically to the disadvantage of the urban poor.

The primary problem that arises is the mismatch between the design of the urban environment and the biological and psychological needs of humans as living beings. Urban environments are created based on considerations of economic efficiency and mobility without considering their impact on health. Humans evolved in natural environments with exposure to light-dark cycles, temperature variations, and vast open spaces. Modern urban life separates humans from the natural environment where their physiological systems adapted. Exposure to artificial light throughout the night disrupts the circadian rhythm that regulates various body functions. Constant urban noise causes continuous activation of the body's stress response system. The lack of contact with natural elements such as soil, plants, and fresh water reduces the diversity of the human microbiome (Rook, 2013). Urban diets are dominated by processed foods high in salt, sugar, and saturated fats. Urban designs that ignore these basic human needs are not an inevitable consequence of modernization. There are design choices that can be made to create urban environments that are more supportive of health. The problem is that city design decisions are heavily influenced by short-term economic interests. Resident health is often sacrificed for property profits and narrowly measured transportation efficiency.

Another problem relates to the fragmentation of responsibility for public health in urban governance. The health of city residents is influenced by decisions from various sectors such as housing, transportation, environment, and spatial planning. However, each of these sectors operates in silos with separate mandates and budgets. Health departments have limited authority over the policies that determine the environmental quality where residents live. Spatial planning departments plan regional zoning without adequate consultation with public health experts. Transportation departments prioritize smooth traffic flow over the active mobility needs of residents. There is no mechanism to ensure that policies from these various sectors are evaluated together for their health impacts (Giles-Corti et al., 2016). Consequently, a policy from one sector

can negate the benefits of a policy from another. For example, building a new toll road may reduce travel time but increase air pollution in nearby settlements. The absence of public health representatives in the city planning process is a serious structural weakness. Even when health data is available, there are no formal channels to translate it into policy recommendations. This fragmentation reflects a failure to understand health as a result of various interrelated determinants. Addressing this issue requires fundamental changes in how city governments organize decision-making processes.

The majority of the world's population currently resides in urban areas, and this proportion is set to grow even larger. Decisions regarding city design and governance made today will affect the health of millions for decades to come. New cities are being constructed across various developing nations with massive infrastructure investments. Design flaws that harm health will be extremely costly to rectify once a city is built. On the other hand, existing cities continue to expand and undergo gradual infrastructure renovations. Every new development project represents an opportunity to correct the design mistakes of the past. Knowledge regarding the relationship between urban environments and health is already available, yet it has not been translated into practice. The gap between scientific evidence and real-world policy is an urgent implementation problem that must be addressed. Vulnerable populations such as children, the elderly, and the poor are the most impacted by poor urban design (Sarkar & Webster, 2017). Health equity demands priority attention to the needs of groups with limited political voice. Delaying action will accumulate a burden of disease that is actually preventable through better city design.

The objective of this writing is to develop a conceptual understanding of the mechanisms through which the characteristics of urban life influence the distribution of health within a population. This writing aims to identify specific urban social determinants that serve as mediators between urbanization and health outcomes. The theoretical contribution of this piece is the refinement of the social determinants of health analytical framework specifically for urban settings. Practically, this writing provides a foundation for the formulation of urban planning policies that are responsive to the health needs of the population.

## Method

This writing was conducted as a literature study using a qualitative approach oriented toward conceptual exploration. Ragin and Amoroso (2011) explain that qualitative research in social sciences aims to understand the meanings and mechanisms behind social phenomena. This approach is appropriate for the topics of urbanization and health due to the complexity of relationships involving many interrelated factors. The data sources in this research are academic texts in the form of books, research reports, and relevant journal articles. The selection of sources was based on criteria of substantial relevance, publisher credibility, and the currency of information. The data collection process involved systematic searching through academic databases using predetermined keywords. Dunn and Neumann (2016) emphasize that discourse analysis in literature studies requires critical and repeated reading of the texts. The researcher was not involved in primary data collection such as interviews or field observations in this study. All arguments built are sourced from the author's interpretation of available literature without claims of new empirical findings. The validity of the interpretation was maintained through a meticulous reading process and comparisons between different sources. This approach allows for the development of a deep theoretical understanding of the topics studied.

Data analysis in this study uses a thematic analysis method adapted for literature materials. According to Ragin and Amoroso (2011), thematic analysis involves identifying recurring patterns in data which are then grouped into categories. The initial step of the analysis was the organization of all collected sources based on the main topics discussed. Each source was read thoroughly to understand the main arguments and supporting evidence. Initial codes were assigned to sections of the text relevant to the formulated research questions. These codes were then grouped into larger themes based on conceptual similarities. Dunn and Neumann (2016) state that the process of thematization in qualitative research is iterative and reflective. The main themes emerging in this analysis include the urban physical environment, social structure, transportation systems, and governance. Each theme was broken down into more specific sub-themes to deepen the understanding of relational

mechanisms. Comparisons between sources were made to identify areas of consensus and differing viewpoints within the literature. The conclusion-drawing process was carried out gradually by always referring back to the original data. This entire analytical procedure ensures that the resulting conclusions have a solid foundation in the literature evidence. The validity of findings was maintained through an audit trail process documenting every step of the analysis.

## Result and Discussion

The characteristics of the urban physical environment shape health exposures that are fundamentally different from rural environments. Air quality in urban areas undergoes degradation due to emissions from transportation, industry, and energy plants. Fine particles smaller than 2.5 micrometers can penetrate the lung alveoli and enter the bloodstream. Long-term exposure to these fine particles correlates with increased mortality from cardiovascular and respiratory diseases (Schröder et al., 2022). This condition indicates that we need to view health issues from a broader psychological perspective, especially in facing the fast-paced changes of the era (Darmawan et al., 2021). Concentrations of nitrogen dioxide and sulfur dioxide in urban air reach levels that irritate the respiratory tract. Children living near highways with high traffic volumes have a greater risk of asthma. Adults with chronic obstructive pulmonary disease experience exacerbation of symptoms when air quality worsens. Urban air pollution affects not only respiratory health but also cognitive function. Epidemiological studies show a relationship between long-term exposure to air pollution and cognitive decline in the elderly. Inhaled fine particles trigger systemic inflammatory responses that affect various body organs. Air pollution also contributes to the development of atherosclerosis and an increased incidence of stroke. The burden of disease attributed to urban air pollution is substantial when measured in disability-adjusted life years. Residents living in areas with poor air quality face a significant risk of premature death (Akerman et al., 2018). To face these uncertain conditions, every organization and city manager must possess smart and adaptive ways of managing crises (Arifin & Darmawan, 2022). Efforts to improve urban air quality require interventions at the pollution sources and control of its dispersion.

Temperatures in urban areas are consistently higher than in surrounding rural areas in a phenomenon known as the urban heat island. Dark building and road surfaces absorb solar radiation and release it as heat at night (Wasfi & Kestens, 2021). Human activities such as air conditioning and motor vehicles also release heat into the urban environment. Limited vegetation in cities reduces the evaporative cooling that occurs through plant transpiration. Self-awareness within each individual to care more about nature is the primary key to ensuring our environment remains sustainable (Nuraini et al., 2022). This heat accumulation increases the frequency and intensity of heatwaves in urban areas. Heatwaves are deadly natural disasters, especially for vulnerable populations such as the elderly and children. The risk of heat stroke and dehydration increases sharply when the ambient temperature exceeds the body's ability to cool itself. Cardiovascular diseases worsen during heatwaves because the heart's workload increases to pump blood to the skin. The urban poor living in housing without air conditioning face the highest risk. Access to air-conditioned spaces is limited for low socio-economic groups in cities. Rising temperatures also affect the sleep quality of urban residents, which impacts overall health. Global climate change is predicted to exacerbate the urban heat island phenomenon in the future. Adaptation to rising urban temperatures requires modifications in building design and the addition of green spaces.

Noise pollution is a permanent characteristic of the urban environment that is often overlooked in public health discussions. Major noise sources in cities include road traffic, railways, aircraft, and construction activities. Noise levels on major urban roads consistently exceed the recommended thresholds of the World Health Organization. Interestingly, amidst this noise and modernity, there are still community groups that strive strongly to maintain their old traditions (Amri & Khayru, 2022). Chronic noise exposure activates the body's stress response system through autonomic nervous and endocrine pathways. Cortisol and catecholamines are released repeatedly in response to disruptive loud sounds. This sustained stress response contributes to the development of hypertension and cardiovascular disease (Münzel et al., 2018). Sleep disruption due to nighttime noise is another important mechanism linking noise to health. Disturbed sleep affects glucose metabolism regulation and immune system function. Children chronically exposed to traffic noise

show difficulties in attention and learning. Aircraft noise around airports correlates with lower test scores among schoolchildren. Adult residents living in noisy areas report higher levels of stress and anxiety. Hearing loss due to long-term noise is the most direct and recognized consequence. However, the non-auditory effects of noise are estimated to cause a larger disease burden at the population level. Reducing urban noise pollution requires interventions at the source, the transmission path, and the noise receiver.

The lack of green open spaces in urban areas limits residents' access to the health benefits of contact with nature. City parks and urban forests function as the city's lungs, absorbing pollutants and producing oxygen. The presence of urban forests is essential because it is proven capable of improving the quality of the living environment amidst dense settlements (Dahar et al., 2022). Vegetation also reduces the urban heat island effect through shading and evaporative cooling. Access to green space correlates positively with the physical activity levels of urban residents. Parks provide a safe and pleasant space for walking, running, and playing for children. Exposure to natural environments has been proven to reduce psychological stress and improve mood. Proposed mechanisms include attention restoration and the reduction of excessive ruminative thinking. Children with attention deficit hyperactivity disorder show symptom improvement after activities in green environments. The elderly living near green spaces have lower levels of loneliness and a higher quality of life. The availability of green space also correlates with a decrease in all-cause mortality after controlling for other factors (Rojas-Rueda et al., 2019). However, we often see the harsh reality where poor citizens are frequently socially segregated and live in poorly maintained areas (Fauzi, 2021). The distribution of green space in cities is highly unequal, with poor groups having more limited access. This inequality in access contributes to pre-existing social health gradients. Just city planning must ensure that all citizens have access to quality green spaces. Ultimately, we all hope for a good balance between economic progress, social life, and environmental sustainability in every government policy (Mardikaningsih & Hariani, 2021).

Urban transportation systems oriented toward motor vehicles shape mobility patterns that harm health through various pathways (Khreis & Nieuwenhuijsen, 2019). The dominance of cars and motorcycles in the urban transportation landscape reduces space for pedestrians and cyclists.

Road designs that prioritize vehicle speed create an environment that is unsafe for active mobility. Pedestrians and cyclists face significant traffic injury risks in cities with inadequate infrastructure. This certainly presents a major challenge, especially for residents living on the outskirts of the city who must commute long distances every day and strive to maintain good relationships with their surrounding environment (Wisnujati & Mardikaningsih, 2021). This risk becomes a primary barrier for residents in choosing to walk or cycle for daily travel. Consequently, the proportion of short trips made by motor vehicles is very high in urban areas. The shift from active transportation to motorized transportation contributes to a decline in daily energy expenditure. Low energy expenditure over the long term accumulates into overweight and obesity. To improve this situation, the government needs to demonstrate leadership that truly focuses on real public service for the community (Rojak, 2021). Investment in clean and reliable mass public transportation can change urban movement patterns. Public transportation also involves walking to and from stops, which is a form of routine physical activity. Policies that reduce private car use, such as parking restrictions and road pricing, need to be considered.

The urban social structure, characterized by anonymity and heterogeneity, affects the mental health of residents through psychosocial mechanisms. Large cities house massive populations, yet interpersonal relationships tend to be shallow and transactional. Anonymity reduces mutual recognition and collective responsibility among residents within a single environment. The lack of social recognition from neighbors and the community reduces the sense of belonging that is vital for mental health. The mental condition of residents is also frequently pressured by negative perceptions or societal stigma regarding mental disorders, which actually hinders the healing process (Aisyah & Issalillah, 2022). Loneliness and social isolation are reported to be higher among urban residents compared to rural residents. Loneliness is not merely an unpleasant emotional condition but a risk factor for various physical diseases. The biological mechanisms linking loneliness to health include the dysregulation of the inflammatory and cardiovascular systems. Lonely individuals show gene activation associated with inflammatory responses and the suppression of antiviral responses (Cole et al., 2015). Therefore, it is very important for residents to support one another and be directly involved in maintaining

their living environment together (Zulkarnain et al., 2021). This gene expression pattern increases vulnerability to various chronic diseases and infections. Individuals with the ability to build good social networks can benefit from urban diversity. However, vulnerable groups such as the elderly, new migrants, and people with disabilities face greater difficulties.

Socio-economic inequality in urban areas creates a sharp health gradient between different administrative regions. Cities are often divided into wealthy areas with high-quality environments and poor areas with slums (Akerman et al., 2018). Differences in environmental quality, such as air pollution, noise, and green space, are very evident between these regions. Access to quality healthcare services is also unequally distributed, with modern facilities concentrated in wealthy areas. This injustice is sometimes rooted in a long history and systems that make certain groups more vulnerable to the impacts of environmental change (Gani, 2022). The urban poor often live in locations with high environmental risks, such as near industries or waste disposal sites. They also face transportation and cost barriers to accessing healthcare services that are actually available in the city. The problem becomes even more complicated when urban restructuring processes actually make low-income residents feel marginalized from their own places of residence (Fauzi, 2022). Extreme residential density in slums accelerates the transmission of infectious diseases through close contact. Diarrheal diseases and acute respiratory infections remain the leading causes of child morbidity in these environments. The urban poor also face high levels of psychosocial stress due to economic and housing uncertainty. In these difficult situations, the presence of honest and high-integrity legal assistance is greatly needed to help residents obtain justice (Saktiawan et al., 2021). This chronic stress is exacerbated by the social stigma and discrimination experienced by slum residents.

Urban food systems are characterized by the dominance of processed and ultra-processed foods that are widely and cheaply available (Mahmudah, 2021). Modern food supply chains allow for food distribution from various regions but often at the expense of nutritional value. Ultra-processed foods are designed with a combination of salt, sugar, fats, and flavor enhancers that trigger addiction. The consumption of ultra-processed foods is associated with an increased risk of obesity, diabetes, and cardiovascular disease (Srour et al., 2019). We need to realize that the

product choices we buy, including health products, should be based on concern for the environment and good recycling habits (Fachrurazi et al., 2022). The availability of fresh food such as fruits and vegetables in urban areas is often limited to certain regions. Areas with limited access to fresh food are known as food deserts. Food deserts are usually located in poor urban areas where supermarkets are reluctant to operate due to low profits. Residents of food deserts depend on small shops and minimarkets that mostly sell processed foods. To change these habits, education and increasing public awareness about healthy lifestyles are very important (Gautama & Mardikaningsih, 2022). The price of fresh food in urban areas also tends to be higher than processed food due to distribution costs. Price comparisons drive consumer choices toward processed foods that are filling at a lower cost. Fast food culture in cities is reinforced by busy lifestyles with limited time for cooking. All these efforts must be supported by strong government policies that favor the social welfare of the community (Rizky & Udjari, 2021). Unhealthy food advertisements target urban populations through various media with persuasive messages. Urban food system interventions require policies that influence both the supply and demand sides simultaneously.

Access to healthcare services in urban areas is, in the aggregate, better than in rural areas, yet its distribution is highly unequal. Modern hospitals with advanced technology are concentrated in city centers served by adequate transportation (Wang & Otis, 2019). Residents in dense suburban areas often face long distances and travel times to reach these facilities. Urban traffic congestion extends travel time to healthcare facilities in emergency situations. This condition indicates that sustainable development policies must truly prioritize health and equity so that the quality of life for everyone can improve (Issalillah, 2021). Referral systems between healthcare facilities in cities often do not function optimally due to poor coordination. Patients may be referred to facilities that are physically close but lack good administrative connections. The availability of specialist health workers in urban areas is much higher, but access is limited by cost. Furthermore, the performance of public organizations in providing services to the community is also heavily influenced by how the welfare of their employees is addressed (Gautama et al., 2021). The urban poor are trapped in a situation where public services are inadequate and

private services are unaffordable. The lack of adequate health insurance forces poor families to make difficult decisions between medical treatment and other needs. Urban health system reform must prioritize equal access and financial protection for poor groups.

High population density in cities creates conditions that facilitate the rapid transmission of infectious diseases (Hawkes et al., 2017). Close contact between individuals in public transportation, workplaces, and public spaces accelerates the chain of transmission. Airborne infectious diseases such as influenza, tuberculosis, and measles spread more efficiently in dense environments. Large cities become pandemic epicenters due to global connectivity and high population density. On the other hand, urban communities with shared interests often form specific groups, which can actually serve as platforms for sharing health information (Rejeki, 2021). Poor sanitation in slums enables the transmission of diseases through contaminated water and food. Hepatitis A, typhoid, and cholera remain problems in urban areas with inadequate sanitation infrastructure. Disease vectors such as the *Aedes aegypti* mosquito, which causes dengue fever, breed in urban standing water. We also need to emulate how local communities preserve nature by combining traditional methods and modern science to prevent further environmental damage (Nurmalasari & Nuraini, 2021). Preparedness for outbreaks in urban areas requires very strong cross-sectoral and cross-administrative coordination.

Urban housing quality varies greatly, from luxury apartments to slum dwellings without adequate ventilation. Poor housing directly affects health through several different mechanisms. Dampness and mold on walls due to poor air circulation trigger asthma and respiratory allergies. Extreme residential density, where several families share a single room, increases the risk of disease transmission. These housing issues are also related to how humans interact with one another, as relationship patterns in urban society have changed significantly today (Irfan & Al Hakim, 2022). Inadequate ventilation leads to the accumulation of indoor pollutants from cooking and cleaning activities. The risk of injury from unsafe homes, such as stairs without handrails or exposed electrical wiring, is higher. Psychological stress resulting from substandard housing contributes to mental health disorders among residents. To face social changes like these, the policies adopted must be fair and remain relevant

to the real needs of the community in the field (Halizah & Mardikaningsih, 2022). Children growing up in poor housing show hindered cognitive and physical development (Thomson et al., 2013). Public housing policies that provide decent dwellings for poor groups represent a long-term health investment.

The fast-paced urban lifestyle creates irregular and poor-quality sleep patterns (Ramadurg, 2014). Noise and artificial light throughout the night disrupt the natural circadian rhythm that regulates the sleep-wake cycle. Long working hours and high-pressure jobs reduce the time available for sufficient sleep. The pressures of living in a big city often make the elderly more susceptible to stress if they are not supported by a good environment (Issalillah & Aisyah, 2022). Chronic sleep deprivation contributes to an increased risk of obesity through the dysregulation of body hormones. Sleep deficits also affect insulin sensitivity, thereby increasing the risk of type 2 diabetes mellitus. The body's immune function declines when sleep is insufficient, leading to increased vulnerability to infection. In managing various public services in the city, principles of efficiency and waste reduction must be applied so that results are maximized for residents (Radjawane et al., 2022). Accumulated sleep deficits increase the risk of traffic and occupational accidents in urban areas. Urban stress contributes to chronic insomnia that is difficult to overcome without lifestyle changes. Small changes, such as switching to eco-friendly shopping bags, also reflect how community behavior toward the environment is starting to shift (Hariani & Al Hakim, 2022). Education on sleep hygiene and protection against nighttime noise are essential public health interventions to maintain the stamina of city dwellers.

Exposure to various hazardous chemicals in the urban environment occurs through air, water, soil, and consumer products. Heavy metals such as lead and cadmium are found in urban dust and soil due to industrial and traffic emissions (Vlahov et al., 2005). Inhaled or ingested lead causes irreversible neurological development disorders in children. Persistent organic pollutants such as pesticides and polychlorinated biphenyls accumulate in the urban food chain (Ramadurg, 2014). Perfluoroalkyl compounds used in non-stick cookware and food packaging are found in the blood of urban residents. Microplastics from the degradation of plastic waste are widespread in urban drinking water and air. The health effects

of microplastics are still under research, but concerns about potential toxicity are increasing. Personal care and household products release chemical compounds that can disrupt the endocrine system. Endocrine-disrupting chemicals are linked to reproductive, metabolic, and developmental disorders in humans. Children and developing fetuses are the most vulnerable to the adverse effects of environmental chemicals. Prenatal exposure to air pollutants has been linked to low birth weight and developmental disorders. The chemical exposure burden in urban areas is cumulative, and its interaction with other factors is still not fully understood. Stricter regulation of the release of hazardous chemicals into the environment is required to protect public health. Biological monitoring of urban residents can provide data on actual exposure levels and their trends over time.

Urban density also creates unique challenges for reproductive health and child development. Urban environmental stress experienced by pregnant women can affect fetal development through physiological pathways. Exposure to air pollution during pregnancy is associated with an increased risk of premature birth and low birth weight (Gluckman et al., 2008). Limited play spaces and traffic hazards reduce children's opportunities for physical activity outside the home. Urban children spend more time indoors with prolonged screen exposure. A sedentary lifestyle from an early age forms behavioral patterns that are difficult to change in adulthood. Opportunities for outdoor exploration, which are vital for a child's cognitive development, are very limited in cities. The diets of urban children are influenced by the availability of fast food and unhealthy food advertisements. Childhood obesity rates in urban areas are consistently higher than in rural areas across various countries. Urban environments with various sensory stimuli can be a burden for children with sensory processing disorders. Academic pressure in competitive urban schools contributes to stress and anxiety in children. Social support for parents in urban areas is often limited due to the distance from extended families. Child-friendly urban policies must include safe play spaces, safe transportation, and a clean environment. Investing in the health of urban children is an investment in the future human capital of a nation.

The elderly population in urban areas faces specific challenges that differ from other age groups. Declining mobility due to aging becomes a

serious issue in cities designed for rapid movement (Suglia, 2019). Pedestrian facilities that are not elderly-friendly, such as damaged sidewalks and short crossing times, limit access. Social isolation among the urban elderly is exacerbated by the loss of social networks from the workplace and the community. Neighbors busy with their work rarely have time to interact with the elderly in the neighborhood. Access to healthcare services becomes increasingly difficult when the elderly are no longer able to drive or use public transportation. Urban air pollution is more dangerous for the elderly, who have limited physiological reserves to respond to stress. Urban heatwaves cause excess mortality among the elderly with cardiovascular and respiratory diseases. The risk of falling in urban environments increases due to uneven surfaces, pedestrian density, and physical obstacles. Elderly individuals with cognitive impairments such as dementia are at risk of getting lost in complex urban environments. Housing that is not designed with universal design principles makes it difficult for the elderly with physical limitations. Age-friendly city policies must include accessible transportation, adaptive housing, and social integration programs. The needs of the urban elderly are often overlooked in city planning that is oriented toward the productive population. A universal design approach that accommodates all age groups and abilities must become the standard.

Migration to urban areas brings significant changes to the social networks and support previously available in the place of origin (Akerman et al., 2018). Migrants face a process of adaptation to new norms, languages, and ways of life that can be a source of stress. Prolonged acculturation stress contributes to an increased risk of mental health disorders. Migrants living in ethnic enclaves may maintain social networks but remain isolated from the broader society. Access to healthcare services is hindered by language differences, ignorance of the system, and discrimination. Informal migrants without official documentation avoid contact with the service system for fear of deportation. The housing conditions of new migrants are often below standard, characterized by high density and poor sanitation. Jobs available to migrants are frequently informal, with minimal health and safety protections. Migrant workers are at high risk for work-related injuries and illnesses due to exposure to occupational hazards. Migrant children face adaptation challenges in

school that can affect their development and academic achievement. Stigma and discrimination toward specific migrant groups worsen psychological conditions and access to resources. Inclusion policies for urban migrants are necessary to prevent the creation of an underclass with poor health. Migrant-friendly healthcare services with multilingual staff and simplified procedures can reduce access barriers. The social integration of migrants and native residents through joint programs can reduce prejudice and discrimination.

Urban spatial planning policies have a determinant influence on population health through various interrelated mechanisms. Zoning that separates residential areas from workplaces extends travel distances and increases dependence on motor vehicles. Zoning that allows mixed-use between residential, commercial, and office spaces supports active mobility and neighborhood vitality. The protection of green open spaces within spatial plans determines residents' access to the health benefits of nature. Development control policies in disaster-prone areas protect residents from risks of flooding and landslides. Building density requirements and maximum heights affect natural ventilation and sunlight exposure at the settlement level. High minimum parking standards encourage car use, with consequences of pollution and low physical activity. Conversely, policies that limit parking and impose high fees reduce car dependency. Incentives for affordable housing development in strategic locations reduce the need for long commutes for low-income groups. Building quality regulations encompass ventilation, lighting, and materials that affect occupant health. The process of public engagement in city planning allows residents to voice their health needs. Health impact assessments for every significant spatial planning policy are a good practice but are rarely performed (Barton, 2009). Integrating public health knowledge into city planning requires professionals trained in both fields. Collaboration among urban planners, architects, and public health experts must begin from professional education.

Food security in urban areas faces challenges from long supply systems that are vulnerable to disruption (Akerman et al., 2018). The majority of food consumed by urban residents originates from outside the city or even from abroad. Disruptions in the supply chain, such as strikes, natural disasters, or pandemics, can cause sudden scarcities. Food prices in cities are highly volatile, depending on transportation and energy costs.

The urban poor spend a larger proportion of their income on food compared to the wealthy. Rising food prices have the severest impact on groups that are already nutritionally vulnerable. Urban agriculture can improve local food security at the household level. Land for urban agriculture is very limited but can be implemented on rooftops, vacant lots, or through vertical systems. Local food production reduces dependence on long supply chains and provides fresh food. Community garden programs also have social benefits through interaction among residents and nutrition education. Food distribution from food banks and food assistance programs is essential for the most vulnerable groups. Food pricing policies and subsidies for nutritious food can correct market distortions that harm health. Nutrition education starting from elementary school is necessary to build long-term healthy food preferences. The integration of food policy into overall city planning is still not a common practice in most regions.

Community participation in decision-making regarding the urban environment affects the legitimacy and effectiveness of policies. Residents who are involved in planning their own living environments have a greater sense of ownership. Meaningful participation processes result in policies that are more responsive to the real needs of citizens. Participatory planning deliberations allow local knowledge about environmental issues to be heard. Historically marginalized groups, such as people with disabilities, can voice their specific needs. Participation mechanisms can take the form of public deliberations, hearings, or representation in supervisory bodies. Challenges to participation include the dominance of organized interest groups and apathy among some residents. The participation process requires time and financial resources that are often unavailable to the poor. Using digital platforms for participation can reach more citizens but risks digital exclusion. Training in participation facilitation is necessary so that the process is not dominated by specific voices. Decisions resulting from the participation process must be followed by accountability in implementation. Without clear follow-up, participation can become an empty ritual that undermines public trust (Chu et al., 2016). Citizen participation in city planning is an important democratic element for long-term public health. Developing the capacity of citizens and government officials in participation methods is a necessary investment.

Occupational health in urban areas is an important determinant that is often overlooked in public health policies (Wang & Otis, 2019). Most urban adults spend a third of their time at work. Indoor air quality in urban buildings can be worse than outdoor air due to inadequate ventilation. Sick building syndrome, with symptoms such as headaches, eye irritation, and fatigue, is reported by workers in enclosed buildings. Poor workplace ergonomics lead to chronic musculoskeletal injuries that affect productivity and quality of life. High-demand, low-control urban job stress increases the risk of cardiovascular disease. Noise exposure in industrial or construction workplaces causes hearing impairment if not protected. Night shift workers in cities face circadian rhythm disruptions that affect various body systems. Access to rest facilities and healthy food at the workplace influences health behavior choices. Workplace health programs, such as screening and health promotion, can reach adult populations efficiently. Adequate sick leave policies prevent workers from coming in while ill, which could infect coworkers. Weak occupational safety protections in the urban informal sector leave workers vulnerable to various hazards. Gig economy workers, such as online couriers, often lack adequate health protection. Labor regulations need to be updated to respond to changing work patterns in the digital era.

Access to safe drinking water and proper sanitation in urban areas remains a serious problem in many countries. Urban water piping systems often leak and are contaminated by waste from damaged lines. In urban slums, residents depend on water from mobile vendors with unverified quality. Household water storage without secure covers allows for contamination by disease vectors. Inadequate sanitation, involving the discharge of feces into open waterways, pollutes the environment and water sources. Diarrheal diseases remain a leading cause of death for children under five in urban areas of developing countries. Investment in urban water and sanitation infrastructure lags behind population growth. Affordable water tariffs for the poor are necessary to prevent the use of unsafe water sources. Education on handwashing with soap enhances the effectiveness of existing infrastructure. Poor urban solid waste management leads to waste accumulation in waterways and public spaces. Rotting garbage becomes a breeding ground for flies and rats, which act as disease vectors. Composting and recycling systems can reduce the volume

of waste that must be sent to landfills. The disposal of medical waste from urban health facilities requires specialized handling to prevent infection. Circular economy policies for urban waste management are being developed, but implementation remains limited. Urban environmental health requires an integrated approach connecting water, sanitation, and waste management (Montgomery & Elimelech, 2007).

Urban disaster preparedness is becoming increasingly important alongside climate change and population density. Densely populated cities have high vulnerability to natural disasters such as floods, earthquakes, and heatwaves. Disasters in urban areas result in casualties and damage on a much larger scale than in rural areas. High building density accelerates fire spread and hinders access for rescue vehicles. Urban disaster early warning systems require reach across all population segments, including vulnerable groups. Mature evacuation plans are necessary but are often not well-communicated to residents. Urban health facilities must have preparedness plans for patient surges post-disaster. Stocks of emergency medicines and medical equipment need to be placed in safe and easily accessible locations. Emergency communication systems that function when electricity and telephone networks are down are critical. Disaster first aid training for residents increases response capacity before professional teams arrive. Development that considers disaster risk through hazard and vulnerability analysis reduces the impact when a disaster occurs. Disaster insurance for housing and small businesses aids economic recovery after a disaster. Socio-economic inequality determines the level of vulnerability and recovery capacity after a disaster. Poor groups living in high-risk locations are the most affected and the slowest to recover (Cutter et al., 2003). Equity in urban disaster management requires priority attention to the most vulnerable groups before a disaster occurs.

## Conclusion

Urban life influences the health of the population through social determinants that operate at various levels, ranging from the physical environment to social structures. Urban environments characterized by air pollution, noise, high temperatures, and a lack of green space create exposures that directly harm health. Transportation systems oriented toward motor vehicles reduce physical activity and increase pollution as

well as the risk of injury. The urban social structure, with its anonymity and heterogeneity, contributes to social isolation and mental health disorders. Sharp socio-economic inequality in cities produces systematic health gradients that disadvantage poor groups. Urban food systems are dominated by processed foods that contribute to the epidemics of obesity and metabolic diseases. Fragmentation in urban governance causes policies from various sectors to operate in an uncoordinated manner when influencing health. City designs that ignore the health needs of the population are a consequence of short-term economic priorities dominating planning. Addressing urban health challenges requires an approach that simultaneously integrates housing, transportation, environmental, and health policies.

The theoretical implications of this discussion point to the need for a social determinants of health analytical framework specifically for urban settings, taking into account their unique characteristics. Practically, city governments need to establish cross-sectoral coordination mechanisms with public health as one of the policy evaluation criteria. Urban design standards that support health such as the provision of green spaces, pedestrian paths, and clean public transportation must be made mandatory. Participatory budgeting systems should be developed to ensure that infrastructure investments reflect the health priorities of the residents. Urban planning and architecture education must incorporate public health principles into the core curriculum. Health impact assessments for every significant spatial planning and transportation policy need to be institutionalized as standard procedure. Interdisciplinary research that bridges public health and urban planning sciences should be encouraged through specific funding schemes.

## References

Aisyah, N. & F. Issalillah. 2022. Social Stigma toward Mental Illness: Manifestations in Society and Barriers to Recovery, *Studi Ilmu Sosial Indonesia*, 2(1), 307-332.

Akerman, M., Mendes, R., & Comarú, F. de A. 2018. Health and the Urban: Multiple Threads Interconnecting Health in the City. 141–154. https://doi.org/10.1007/978-3-319-69474-0_8

Amri, M. W., & Khayru, R. K. 2022. Keeping Tradition in the Midst of Modernity: The Social Life of Indigenous Communities in Urban Areas. *Journal of Social Science Studies*, 2(1), 135-138.

Arifin, S., & Darmawan, D. 2022. Adaptive Approach in Crisis Management for Economic Uncertainty in Organization. *Journal of Social Science Studies*, 2(1), 271-276.

Barton, H. 2009. Land use planning and health and well-being. *Land Use Policy*, 26, S115-S123.

Chu, E., Anguelovski, I., & Roberts, D. 2016. Climate adaptation as strategic urbanism: Assessing forecasting, planning, and finance in South African cities. *Cities*, 54, 34-40.

Cole, S. W., Capitanio, J. P., Chun, K., Arevalo, J. M., Ma, J., & Cacioppo, J. T. 2015. Myeloid differentiation architecture of leukocyte transcriptome dynamics in perceived social isolation. *Proceedings of the National Academy of Sciences (PNAS)*, 112(49), 15142-15147.

Cutter, S. L., Boruff, B. J., & Shirley, W. L. 2003. Social vulnerability to environmental hazards. *Social Science Quarterly*, 84(2), 242-261.

Dahar, D., Arifin, S., Nuraini, R., & Mardikaningsih, R. 2022. Urban Forest: The role of improving the quality of the urban environment. *Bulletin of Science, Technology and Society*, 1(1), 25-29.

Darmawan, D. et al. 2021. *Psychological Perspective in Society 5.0*, Zahir Publishing, Jogjakarta.

Dunn, K. C., & Neumann, I. B. 2016. *Undertaking discourse analysis for social research*. University of Michigan Press.

Ezeh, A., Oyebode, O., Satterthwaite, D., Chen, Y. F., Ndugwa, R., Sartori, J., ... & Lilford, R. J. 2017. The history, geography, and sociology of slums and the health problems of people who live in them. *The Lancet*, 389(10068), 543-558.

Fachrurazi, F., Purwanto, F., Dewianawati, D., Purwoko, B., & Darmawan, D. 2022. Medical products and environmentally friendly purchase intention: what is the role of green consumers behavior, environment concern, and recycle behavior?. *Frontiers in Public Health*, 10, 960654.

Fauzi, A. 2021. Spatial Patterns of Poverty and Social Segregation in Metropolitan Areas, *Studi Ilmu Sosial Indonesia*, 1(1), 147-160.

Fauzi, A. 2022. Gentrification in Urban Renewal and the Marginalization of Low Income Communities, *Studi Ilmu Sosial Indonesia*, 2(1), 235-260.

Gani, A. 2022. The Colonialism-Vulnerability Nexus: A Political Ecology Study of Structural Inequality in Climate Change, *Studi Ilmu Sosial Indonesia*, 2(1), 85-108.

Gautama, E. C., & Mardikaningsih, R. 2022. Driving Sustainable Behavior Change Through Education and Public Awareness. *Journal of Social Science Studies*, 2(1), 259-264.

Gautama, E. C., Mardikaningsih, R., Wisnujati, N. S., & Cruz, C. da. 2021. The Relationship between Employee Welfare and Public Organization Performance in Community Services. *Journal of Social Science Studies*, 1(2), 197-202.

Giles-Corti, B., Verhez, A., Sugiyama, T., Christian, H., Foster, S., Badland, H., ... & Owen, N. 2016. City planning and population health: a global challenge. *The Lancet*, 388(10062), 2912-2924.

Gluckman, P. D., Hanson, M. A., Cooper, C., & Thornburg, K. L. 2008. Effect of in utero and early-life conditions on adult health and disease. *The New England Journal of Medicine*, 359(1), 61-73.

Halizah, S. N., & Mardikaningsih, R. 2022. Accommodating Social Change in Sustainability Policy: Solutions for a Just and Relevant Society. *Journal of Social Science Studies*, 2(2), 299-304.

Hariani, M., & Al Hakim, Y. R. 2022. Analysis of Community Behavior Against the Use of Bio-Degradable Shopping Bags as a Substitute for Single-Use Plastic Bags. *International Journal of Service Science, Management, Engineering, and Technology*, 2(1), 1-4.

Hawkes, C., Harris, J., & Gillespie, S. 2017. Urbanization and the Nutrition Transition. 34–41. https://doi.org/10.2499/9780896292529_04

Irfan, M. & Y. R. Al Hakim. 2022. Changing Patterns of Human Relations in Contemporary Urban Society, *Studi Ilmu Sosial Indonesia*, 2(1), 333-356.

Issalillah, F. & N. Aisyah. 2022. The Elderly and the Determinants of Stress. *Journal of Social Science Studies*, 2(1), 9–12.

Issalillah, F. 2021. Advancing Quality of Life Through Sustainability Policies That Prioritize Health and Equality. *Studi Ilmu Sosial Indonesia*, 1(2), 65-74.

Issalillah, F., & Mardikaningsih, R. 2022. Environmental Justice and Health Burdens in Marginalized Communities Near Waste Sites. *Studi Ilmu Sosial Indonesia*, 2(1), 145-168.

Khayru, R. K. & F. Issalillah. 2022. Service Quality and Patient Satisfaction of Public Health Care. *International Journal of Service Science, Management, Engineering, and Technology,* 1(1), 20 – 23.

Khreis, H., & Nieuwenhuijsen, M. J. 2019. The health impacts of urban transport: Linkages, tools and research needs. 131–142. https://doi.org/10.1016/B978-0-12-814818-1.00008-1

Kuddus, A., Kuddus, A., Kuddus, A., Tynan, E., McBryde, E. S., & McBryde, E. S. 2020. Urbanization: a problem for the rich and the poor? *Public Health Reviews*, 41(1), 1–4. https://doi.org/10.1186/S40985-019-0116-0

Lederbogen, F., Kirsch, P., Haddad, L., Streit, F., Tost, H., Schuch, P., ... & Meyer-Lindenberg, A. 2011. City living and urban upbringing affect neural social stress processing in humans. *Nature*, 474(7352), 498-501.

Mahmudah, S. 2021. Food Vulnerability of Poor Households in Densely Populated Urban Areas, *Studi Ilmu Sosial Indonesia*, 1(2), 125-140.

Mahmudah, S. 2022. Economic Informality and Urban Worker Precarity in City Governance, *Studi Ilmu Sosial Indonesia*, 2(2), 231-258.

Mardikaningsih, R. 2021. Urbanization and Social Inequality: Challenges in Building Social Cohesion in a City-Based Environment. *Journal of Social Science Studies*, *1*(1), 135-140.

Mardikaningsih, R., & Hariani, M. 2021. Realizing Sustainability in Public Policy: Building a Balance between Economy, Social, and Environment. *Journal of Social Science Studies*, 1(1), 191-196.

Montgomery, M. A., & Elimelech, M. 2007. Water and sanitation in developing countries: including health in the equation. *Environmental Science & Technology*, 41(1), 17-24.

Münzel, T., Schmidt, F. P., Steven, S., Herzog, J., Daiber, A., & Sørensen, M. 2018. Environmental Noise and the Cardiovascular System: A Review of Evidence and Mechanisms. *Cardiovascular Research*, 114(1), 28–36.

Nuraini, R., Darmawan, D., Mardikaningsih, R., Hariani, M., & Halizah, S. N. 2022. Keberlanjutan kelestarian lingkungan: Peran kunci lokus kendali internal dan wawasan lingkungan dalam mendorong perilaku pro-lingkungan. *TIN: Terapan Informatika Nusantara*, 3(3), 116-122.

Nuraini, R., Handayani, S., Wisnujati, N. S., Darmawan, D., & Kurniawan, Y. 2021. Environmental Management and Law Enforcement. *Studi Ilmu Sosial Indonesia*, 1(1), 65-76.

Nurmalasari, D., & Mardikaningsih, R. 2022. Utilization of waste paper through recycling and entrepreneurial spirit development. *International Journal of Service Science, Management, Engineering, and Technology*, 1(2), 1-3.

Nurmalasari, D., & Nuraini, R. 2021. The Role of Local Communities in Biodiversity Conservation: Challenges and Integration of Local Wisdom with Modern Science. *Journal of Social Science Studies*, 1(1), 99-104.

Pandit, J., & Sharma, A. K. 2022. Urbanization's environmental imprint: A review. *Environment Conservation Journal*, 23(3), 168–177. https://doi.org/10.36953/ecj.10942268

Radjawane, L. E., Darmawan, D., & Varela, J. R. 2022. Application of Lean Management Principles to Reduce Waste and Improve Operational Efficiency in the Service Sector. *Journal of Social Science Studies*, 2(2), 261-266.

Ragin, C. C., & Amoroso, L. M. 2011. *Constructing social research: The unity and diversity of method*. Pine Forge Press.

Ramadurg, U. Y. 2014. Urban health matters. Annals of Community Health, 2(1), 1.

Rejeki, S. 2021. Social Network Formation Through Shared Interest Communities in Urban Areas, *Studi Ilmu Sosial Indonesia*, 1(1), 227-250.

Rizky, M. C., & Udjari, H. 2021. Reflections on Social Welfare Theory in the Juridical Foundation of Sustainable Public Policy. *Journal of Social Science Studies*, 1(1), 185-190.

Rojak, J. A. 2021. The Effectively Leading Manifestation of Public Service-Oriented Governance. *Journal of Social Science Studies*, 1(2), 89-96.

Rojak, J. A., R. K. Khayru, & D. Darmawan. 2021. Citizens' Political Participation in Electoral Democracy and the Dynamics of Civil Society Movements, *Studi Ilmu Sosial Indonesia*, 1(1), 161-176.

Rojas-Rueda, D., Nieuwenhuijsen, M. J., Gascon, M., Perez-Leon, D., & Mudu, P. 2019. Green spaces and mortality: a systematic review and meta-analysis of cohort studies. *The Lancet Planetary Health*, 3(11), e469–e477.

Rook, G. A. 2013. Regulation of the immune system by biodiversity from the natural environment: an ecosystem service essential to health. *Proceedings of the National Academy of Sciences (PNAS)*, 110(46), 18360-18367.

Saktiawan, P., Hardyansah, R., Darmawan, D., & Putra, A. R. 2021. Ethical Principles in Indonesian Legal Advocacy: Sustaining Justice in Adversarial Systems Through Professional Integrity. *Journal of Social Science Studies*, *1*(2), 239-244.

Saputra, R. & D. Darmawan. 2021. Between Individual Freedom and Collective Responsibility: Dynamics of Social Solidarity in the Age of Individualism, *Studi Ilmu Sosial Indonesia*, 1(1), 251-274.

Sarkar, C., & Webster, C. 2017. Urban environments and positive health outcomes: Recent evidence and future directions. *Current Opinion in Environmental Sustainability*, 25, 32-39.

Schröder, J., Moebus, S., & Skodra, J. 2022. Selected Research Issues of Urban Public Health. *International Journal of Environmental Research and Public Health*, 19(9), 5553–5553. https://doi.org/10.3390/ijerph19095553

Srour, B., Fezeu, L. K., Kesse-Guyot, E., Sahakyan, G., Fiolet, T., Lalles, J. P., ... & Touvier, M. 2019. Ultra-processed food intake and risk of cardiovascular disease: prospective cohort study (NutriNet-Santé). *The BMJ*, 365, l1451.

Suglia, S. F. 2019. Children and Adolescents in Cities. 70–75. https://doi.org/10.1093/OSO/9780190915858.003.0008

Sulistyo, B. 2022. Dynamics of Intergenerational Family Harmony Amid Social Change, *Studi Ilmu Sosial Indonesia*, 2(1), 283-306.

Thomson, H., Thomas, S., Sellström, E., & Petticrew, M. 2013. Housing improvements for health: retrospective and prospective systematic reviews of housing interventions. *Cochrane Database of Systematic Reviews*, (2), CD008657.

Vlahov, D., Vlahov, D., Vlahov, D., Galea, S., Galea, S., Gibble, E., & Freudenberg, N. 2005. Perspectives on urban conditions and population health. *Cadernos De Saude Publica*, 21(3), 949–957. https://doi.org/10.1590/S0102-311X2005000300031

Wang, M. L., & Otis, M. 2019. Improving Access to Healthy Food in Cities. 148–155. https://doi.org/10.1093/OSO/9780190915858.003.0016

Wasfi, R., & Kestens, Y. 2021. Built environment and health. 187–205. https://doi.org/10.1016/B978-0-12-819822-3.00005-5

Wisnujati, N. S. & R. Mardikaningsih. 2021. Urban Sprawl, Daily Mobility, and Community Cohesion in Suburban Fringe Areas, *Studi Ilmu Sosial Indonesia*, 1(2), 275-300.

Zahid, R. A., D. Darmawan, & R. K. Khayru. 2022. Mental Illness Stigma in Families and the Reach of Private Law Protection, *Studi Ilmu Sosial Indonesia*, 2(2), 207-230.

Zulkarnain, M. A. B., Khayru, R. K., Issalillah, F., & da Cruz, C. 2021. Citizen Engagement in Ecological Issue Management through Participatory Practices and Community-Based Social Supports. *Journal of Social Science Studies*, *1*(1), 227-232.