

Principles of a healthy neighbourhood for sustainable development and social well-being: A review paper

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Abstract

Since the 1920s, the notion of a neighbourhood has been studied and implemented. Many modern neighbourhood concepts have been developed and implemented, including green, sustainable, liveable, quality, new urbanism, and safe, compact neighbourhoods. Recent advancements in the notion of neighbourhood are aimed at creating a healthy neighbourhood. As a result, this study undertakes a thorough review of the literature in order to synthesise existing framework knowledge in terms of healthy neighbourhood aims, elements, and principles, as well as the framework and model employed in prior research. From 1999 until the present, a search was conducted to collect only suitable models or frameworks in general, with the inclusion criteria of no time, global, and English language. The keywords healthy neighbourhood, liveable neighbourhood, and sustainable neighbourhood were found in 51 publications or journals. All titles and abstracts were evaluated for the aims, elements, and principles of a healthy neighbourhood in connection to sustainable development and social well-being. After filtering all relevant key terms, only 28 articles were discovered to be relevant and closed related in developing the conceptual framework for this study. Following a comprehensive check on the relevant phrases, this study used a snowball method to acquire the necessary publications. The prior theoretical and modelling paradigm was primarily concerned with sustainable development and social well-being. The researcher will employ three aspects and eight principles to create a complete conceptual framework for healthy neighbourhoods. The conceptual framework will be utilised and evaluated in the future for holistic healthy neighbourhoods.

Keywords: Elements, healthy neighbourhood, principles, purposes, social well-being, sustainable development

Introduction

The concept of a neighbourhood has been explored and later adopted since the 1920s. Green, sustainable, liveable, quality, new urbanism, and safe, compact neighbourhoods are some of the modern neighbourhood concepts that have been developed and implemented. Today, advances in the concept of neighbourhood are aimed at building a healthy neighbourhood. The significance of

this paper is to provide an overview on the theoretical framework from previous researchers to produce the conceptual framework for healthy neighbourhood for sustainable and social well-being. Many studies on the notion of a healthy neighbourhood have been undertaken throughout the years. The study began with the terrible prior epidemics of infectious illnesses such as TB, cholera, typhoid, and yellow fever, all of which were essential components in human existence in the late nineteenth and early twentieth centuries. Diseases spread as a result of the bad urban environment, posing a serious hazard to city dwellers throughout their lives (Bassett & Howerton, 2014). Public infrastructure, sewage, human waste, public parks, traffic congestion, and urban overpopulation are all challenges in a poor urban environment. These epidemics were effectively managed via public infrastructure investment and better urban design (Perdue, Stone & Gostin, 2003). It is critical that urban planners completely integrate health concerns into their work, both in policy and in practise, and that all sectors in cities collaborate to promote health, wellbeing, and quality of life as a method of enhancing health via urban design (Duhl & Sanchez, 1999). Cosgrove (2008) remarked that in the twentieth century, iconic ideas of designers and urbanists developed settings that blend the benefits of rural living. These sorts of advancements lead to a reduction in environmental crises and worldwide environmental change: they promote continuity in image creation and presentation, as well as the evolving roles of physical nature itself in moulding their composition and meanings.

In 2019, the world faced numerous challenges, including outbreaks of vaccine-preventable diseases such as measles and diphtheria, which led to an increase in reports of drug-resistant pathogens, as well as an increase in obesity rates and physical inactivity, as well as the health effects of pollution and climate change, as well as multiple humanitarian crises (WHO, 2019). WHO (2019) has adopted a five-year strategy plan, the 13th General Programme of Work, to combat acute illnesses and associated threats. This initiative has a triple billion aim to ensuring that 1 billion more people have access to universal health coverage, 1 billion more people are protected from health crises, and 1 billion more people have greater health and well-being. Countries must handle health issues from a number of perspectives in order to meet the objectives.

The important of healthy neighbourhood is part of sustainable development as the normative goal for reconciling economic growth with the preservation of natural and social systems (Grant et al., 2017). As mention by Gibberd (2013) the interventions at the neighbourhood level should be developed to make daily living patterns more sustainable over time. The built environment characteristics and facilities that support sustainability are a critical component of this. A partnership for sustainable welfare development may result in the creation of sustainable structures, but this is an unqualified conclusion. First and foremost, the municipality must make a firm, long-term institutional commitment to maintaining and strengthening the sustainability of neighbourhood development (Fröding et al., 2013). Future neighbourhood strive to be sustainable, liveable, and resilient in order to ensure that their citizens live happily and healthily in a low-cost home that is easy to maintain and resilient to future shocks and stresses. It is critical for policymakers, land developers, builders, and real estate agents to understand that, given the extensive list of sustainable, liveable, and resilient features of the neighbourhood and home (Tapsuwan et al., 2018).

Social well-being is also significance for healthy neighbourhood. The physical environment of a neighbourhood influences health and well-being both directly and indirectly, through the quality of housing and public space. The extent to which neighbourhoods provide for all groups for young and old, rich and poor - is a key theme (Barton et al., 2020). The externality space of a person was defined as the area across which changes in one or more Others' spatially

based traits are regarded as changing the individual's well-being (use value, psychological and/or financial rewards) from the specific area. These externality areas were given three (quantifiable) characteristics (Galster, 2001). Pathways to well-being in healthy neighbourhood, social epidemiology, networks, involvement, and pro-social behaviours, as well as four flourishing society criteria, autonomous citizenship, safety, cohesive communities, and resilience (Baldwin et al., 2020).

Literature review

In literature review will focus discussing on the purpose of healthy neighbourhood and the main important things are the principle of healthy neighbourhood.

Purposes of healthy neighbourhood

The goal of a healthy neighbourhood is to improve the health of the people who live there (Bassett & Howerton, 2014). When programme development can prevent sickness, promote health, and also the environment, the neighbourhood will become healthy and prosperous (Institute of Local Government, 2015). Tanata Ashby and Pharr (2012) state that the health of a community is based not just on the genetics of its members, but also on the environment in which those persons live. In other words, a person's health is influenced by his surroundings. A healthy community is one in which all citizens have access to a good education, safe and healthy housing, appropriate work, transportation, physical exercise, and nutrition, as well as good health care (Falk & Carley, 2012). When all of the fundamental conditions for a healthy community are satisfied, individuals become culturally productive and financially sustainable: the latter refers to the financial bottom line after taking into account and efficiently using resources, as well as the productive potential of organisations (Miska et al., 2018).

Principles of healthy neighbourhood

The dispute on the concept of healthy neighbourhood will be presented in terms of eight principles from diverse researchers on the healthy neighbourhood debate. Location, integrate nature, mix uses, mix it up, circulation alternatives, pride of place, lifelong learning, and sustainable development are examples of these. Each principle has its own characteristics that are discussed in previous studies comprehensively. Based on the principles and each of the features discussed, it is not necessary that every neighbourhood must and must have all of them. It is enough if the neighbourhood has some of those principles and characteristics. Each element will be classified as physical, social and economic elements.

a. Location

The placement of the local park is particularly significant for a neighbourhood's healthy aspect, especially if it is located in the town centre (Plane & Klodawsky, 2013). One element to consider is that the location of neighbourhood amenities or public facilities varies depending on the functions, uses, and services supplied to the population in an area, making living near amenities more attractive (Yinger, 2015). The notion that location matters in the pursuit of subjective well-being is central to the urban happiness argument (Danladi Musa et al., 2019). While it is widely

acknowledged that high-quality neighbourhood facilities may increase social trust, the length of stay also has a substantial influence. It is vital that any major expansion does not result in the displacement of current inhabitants, because the longer individuals remain in a certain location, the more socially integrated they become (Lim et al., 2017). The location and internal qualities of a neighbourhood may influence how people travel and how satisfied they are with their daily commute (Mouratidis, 2020). Essentially, the placement of neighbourhood amenities and public services will result in the creation of a healthy and liveable neighbourhood. Refer Table 1 for the summary discussion of the location aspect.

Table 1. Summary discussion of location

| Author | Location aspect | Classification |
|----------------------------|--|----------------|
| Plane & Klodawsky (2013) | Located in the town centre | Physical |
| Yinger (2015) | Location of neighbourhood amenities or public facilities | Physical |
| Lim et al. (2017) | Certain location, the more socially integrated | Social |
| Danladi Musa et al. (2019) | Subjective well-being is central to the urban happiness | Social |
| Mouratidis (2020) | Placement of neighbourhood amenities and public services | Physical |

Source: Author, 2023

b. Integrate nature

The vast bulk of the expected urban population expansion will be of the informal sort. Many will be housed on the fringes and in the nooks and crannies of small and medium-sized cities in middle- and low-income countries. Improved food and food growing conditions, urban greening, flood risk reduction, microclimate enhancement, and activity-supporting greenways are all examples of smart urban design features (Grant et al., 2017). In terms of social worth, most people consider that the social advantage of a neighbourhood unit is overstated when compared to the natural lifestyle of a modern metropolis (Asfour & Zourob, 2017). The requirements for index construction in urban health are the necessity to include stakeholders, the contentious nature of composite indicators and weighting procedures, the validity of global comparisons of urban health, and the difficulty in obtaining adequate open data across global cities (Pineo et al., 2018). Because of its urban form, the urban environment serves numerous social functions and psychological needs of people, making it a valuable municipal resource and a critical component in city sustainability. Green spaces must be given within a 2.5-kilometer radius of the demand in order to maximise green infrastructure for physical activity (houses, workplaces, etc.). Individual incentives for visiting green infrastructure must be addressed while constructing green infrastructure. These incentives include enjoyment, relaxation, dedication to nature, and physical challenges. Generally, initiatives in nature integration will help to the protection of natural habitat inside and surrounding the community (Gehrels et al., 2016). Refer Table 2 for the summary discussion of the integrated nature aspect.

Table 2. Summary discussion of integrate nature

| Author | Integrate nature aspect | Classification |
|------------------------|--|-------------------|
| Gehrels et al. (2016) | Natural habitat inside and surrounding the community | Physical & social |
| Grant et al. (2017) | Smart urban design features | Physical |
| Asfour & Zourob (2017) | The natural lifestyle | Social |
| Pineo et al. (2018) | Index construction in urban health | Physical & social |

Source: Author, 2023

c. Mix uses

Each neighbourhood has a unique combination of land uses and densities, making it possible to live, learn, work, and play. More intensive land uses are related to and centred on transit and alternate modes of transportation. Every citizen can easily get common goods and services. Residents' recreational needs in their neighbourhood are satisfied regardless of mode of transportation (City Council Red Deer, 2013). Land usage inside a somewhat small location with linked residences may give a competitively high yet desirable density for mix applications. This also includes tiny dwelling flats (Asfour & Zourob, 2017), which are recognised as the high-quality compact urban form with a set limit. If greater liveability at growing densities is to be achieved, the evolving spatial role of occupants' liveability demands must also be recognised and accommodated (Allen et al., 2018). The new design rules promote the establishment of a mixed-use neighbourhood node that includes either (or both) commercial development and a community amenity or facility (City Council Red Deer, 2013). The combination of other components in promoting healthy city, such as pavements, diversified land uses, street connections, and so on, leads in greater levels of physical activity (Pineo et al., 2018). A mixed land use is a measure of residential, commercial, and industrial uses, with scores of one indicating maximum mixed or heterogeneous land use (e.g., comparable proportions of diverse land uses) and zero indicating maximum homogeneous land use (e.g., completely residential) (Wineman et al., 2014). Refer Table 3 for the summary discussion of the mix uses aspect.

Table 3. Summary discussion of mix uses

| Author | Mix uses aspect | Classification |
|------------------------------|---|-----------------------------|
| City Council Red Deer (2013) | Intensive land uses are related to and centred on transit and alternate modes of transportation | Physical |
| Wineman et al. (2014) | Maximum mixed or heterogeneous land use | Physical |
| Asfour & Zourob (2017) | Small location with linked residences | Physical |
| Allen et al. (2018) | High-quality compact urban form | Physical |
| Pineo et al. (2018) | Combination of other components in promoting healthy city | Physical, social & economic |

Source: Author, 2023

d. Mix it up

The mix in a healthy neighbourhood is connected to participants who value inclusive (free) social activities and the opportunity to engage with people in the park more than its attractiveness. It is critical to support free community gatherings in public locations in order to instil feelings of belonging. Inclusion of marginalised groups into the community (Plane & Klodawsky, 2013). To provide a more comprehensive picture of elements impacting social trust in healthy neighbourhoods, housing quality or satisfaction should be included with other neighbourhood services and features (Lim et al., 2017). A socially inclusive community is one that is safe, attractive, cohesive, and environmentally sustainable, with affordable and diverse housing that is connected to employment, education, local shops and community services, leisure and cultural opportunities, and public open space through convenient public transportation, walking and cycling infrastructure, and public open space (Davern et al., 2017). We cannot ignore the existing inequities; what happens in even the most remote region has an influence on the entire system. The neighbourhood, the city, and the world are all components of a single complex organism that must

be handled as a whole. As a kind of community governance, Healthy Cities provide an inclusive mode of operation (Duhl & Sanchez, 1999). Refer Table 4 for the summary discussion of the mix it up aspect.

Table 4. Summary discussion of mix it up

| Author | Mix it up aspect | Classification |
|--------------------------|--|-----------------------------|
| Duhl & Sanchez (1999) | Inclusive mode of operation | Physical, social & economic |
| Plane & Klodawsky (2013) | Inclusive free social value | Social |
| Lim et al. (2017) | Comprehensive picture of elements impacting social trust | Social |
| Davern et al. (2017) | Socially inclusive community | Social & economic |

Source: Author, 2023

e. Circulation alternatives

To split parking into smaller portions and allow for increased pedestrian traffic, commercial nodes and multi-family properties must be designed with pedestrian walkways, medians, and landscaping. Areas for pedestrian circulation within commercial nodes must be clearly marked with separate paving, concrete curbs, and planting, and both pedestrian-scale and higher parking lot lighting must be provided (City Council Red Deer, 2013). The functionalist of circulation also contributed to this stage of zoning functions by connecting them via a network of circulation routes to enhance cleanliness, social growth, and efficiency (Duhl & Sanchez, 1999). These varied circulation systems allow residential neighbourhoods to stay essentially car-free while simultaneously shortening the distances between parking and front doors. The streets are all appropriately short, with small-turning-radius curves, tiny entrances, and little sight. As a consequence, vehicle speeds are reduced, and integration with the surrounding environment and vegetation is acceptable (Gulati, 2019). Instead of merely thinking about road circulation, think about air circulation as well. In order to improve air circulation, green components must be carefully positioned in locations where people live and play. As a result, the use and design of green infrastructure should constantly consider the particular characteristics of a given region (Gehrels et al., 2016). To some extent, circulation relates to which streets are connected within their area or local neighbourhood (Wineman et al., 2014). To reduce violent crime, the most consistent evidence for successful environmentally oriented, place-based violence interventions comes from improving street connections, installing street lights in public housing, and providing green living environments (Hohl et al., 2019). Refer Table 5 for the summary discussion of the circulation alternatives aspect.

Table 5. Summary discussion of circulation alternatives

| Author | Circulation alternatives aspect | Classification |
|------------------------------|---|-----------------------------|
| Duhl & Sanchez (1999) | Functionalist of circulation also contributed to this stage of zoning functions | Physical & social |
| City Council Red Deer (2013) | Split parking into smaller portions and allow for increased pedestrian | Physical & social |
| Wineman et al. (2014) | Streets are connected within their area | Physical |
| Gulati (2019) | Essentially car-free simultaneously shortening the distances | Physical & social |
| Gehrels et al. (2016) | Green infrastructure | Physical, social & economic |
| Hohl et al. (2019) | Environmentally oriented and place-based violence interventions | Physical, social & economic |

Source: Author, 2023

f. **Pride of place**

By providing locations for assembly and meet-ups, the capacity to create trust through social interactions is enhanced. Furthermore, satisfaction with services and facilities increases general enjoyment of people's neighbourhoods, developing a sense of pride and devotion to them. This sense of belonging provides cognitive motivation for social investment, such as participating in trust-building social activities (Lim et al., 2017). Each neighbourhood has its own distinct personality, which promotes community pride and a sense of belonging. At important intersections and other locations around the neighbourhood, arrival features, focal points, natural elements, public art, and other community symbols are intertwined. Architecture and site design communicate innovation and a distinct "look and feel" for each neighbourhood, including building-to-public-space linkages, housing size, street widths, block size, material selection, and architectural character (City Council Red Deer, 2013). Furthermore, the loss of specific small-scale neighbourhood regions has weakened a sense of belonging and even privacy, resulting in an additional loss of orientation and territoriality. Most individuals in such undefined places remain impersonal and lack a sense of belonging, resulting in a lack of care for open spaces and a loss of connected pride among residents (Gulati, 2019). This circumstance highlights the need of creating communities that inspire pride, respect, and camaraderie, as well as assuring service accessibility. It illustrates the importance of liveable urban districts in the centre of the city or neighbourhood that reflect the community's identity (Duhl & Sanchez, 1999). Refer Table 6 for the summary discussion of the pride of place aspect.

Table 6. Summary discussion of pride of place

| Author | Pride of place aspect | Classification |
|------------------------------|--|-------------------|
| Duhl & Sanchez (1999) | Inspire pride, respect, and camaraderie | Physical & social |
| City Council Red Deer (2013) | Community pride and a sense of belonging | Physical & social |
| Lim et al. (2017) | Sense of pride and devotion | Physical & social |
| Gulati (2019) | Sense of belonging and even privacy | Physical & social |

Source: Author, 2023

g. Lifelong learning

Kindergartens, Playgroups, Primary and Secondary Schools, Universities, Vocational and Technical Tertiary Education, University of the Third Age, and Libraries are all part of the education service for lifelong learning (Davern et al., 2017). The ideal learning community may be seen as a continuous continuity of learning and production in which the pursuit of knowledge is a lifetime experience and education is inextricably tied to one's living and working environment (Duhl & Sanchez, 1999). Education institutions, as well as economic enterprises, health care, and transportation services, are critical assets for neighbourhood facilities. These facilities should be modernised in order to meet the growing demand for lifetime learning opportunities (Lim et al., 2017). Educational institutions are part of the neighbourhood amenities that make a neighbourhood liveable and healthy. Residents vary in their level of satisfaction with their daily living needs and neighbourhood comfort. They thought about the distance between their residences and the facilities they wanted to be near to (Allen et al., 2018). Some stakeholders with substantial knowledge in developing and managing healthy urban environments frameworks sparked debate among public and private sector actors regarding who was responsible for specific urban environment exposures. They noted a number of other difficulties for urban health policy and delivery, such as the need for professional and general public education and community engagement (Pineo et al., 2018). One of the most important requirements and resources for good health is education. Peace, shelter, food, money, a stable ecosystem, sustainable resources, social justice, and equity are all required for health enhancement (Duhl & Sanchez, 1999). Refer Table 7 for the summary discussion of the lifelong learning aspect.

Table 7. Summary discussion of lifelong learning

| Author | Lifelong learning aspect | Classification |
|---|--|-----------------------------|
| Duhl & Sanchez (1999) | Education institutions, Pursuit of knowledge | Physical, social & economic |
| Davern et al. (2017) | Education service | Physical & social |
| Lim et al. (2017) & Allen et al. (2018) | Education institutions | Physical & social |
| Pineo et al. (2018) | Substantial knowledge | Physical & social |

Source: Author, 2023

h. Sustainable development

High urban density is encouraged to reduce urban sprawl, promote social equality and economic prosperity, encourage walkability and reduce car dependency, optimise land use and provide interconnected streets, foster local employment and production, and provide a mix of housing types to meet diverse housing needs (Asfour & Zourob, 2017). Sustainable development comprises all measures for evaluating and monitoring community subjective well-being in urban contexts that are based on the most important social, economic, environmental, and urban governance aspects (Danladi Musa et al., 2019). The global economic system's sustainable expansion began to be translated into international concerns about rainforest loss, river and sea pollution, ocean acidification, ozone depletion, desertification, species extinctions, and, of course, climate change (Grant et al., 2017). Healthy cities have the potential to significantly reduce service costs, enhance local production, and contribute to larger sustainable development goals (Pineo et al., 2018). The

globalisation era has altered the desire for sustainable development in order to fulfil the need for better living conditions while protecting the environment and natural resources and maintaining expansion (Wahi et al., 2018). Healthy urban design will encourage organic growth, resulting in environments that promote health for everybody and long-term development (Duhl & Sanchez, 1999). Sustainable development must be encouraged in order to increase the potential for place-based interventions to produce far-reaching and long-lasting changes in the health and safety of communities who confront significant disadvantage (Hohl et al., 2019). Refer Table 8 for the summary discussion of the sustainable development aspect.

Table 8. Summary discussion of sustainable development

| Author | Sustainable development aspect | Classification |
|----------------------------|--|-----------------------------|
| Duhl & Sanchez (1999) | Encourage organic growth | Physical, social & economic |
| Asfour & Zourob (2017) | High urban density | Physical & social |
| Grant et al. (2017) | Global economic system's | Economic |
| Pineo et al. (2018) | Larger sustainable development goals | Physical, social & economic |
| Wahi et al. (2018) | Fulfil the need for better living conditions | Social & economic |
| Danladi Musa et al. (2019) | Comprises all measures | Physical, social & economic |
| Hohl et al. (2019) | Increase the potential for place-based interventions | Physical & social |

Source: Author, 2023

Method

An online data base search was performed using the science direct search engine to identify how many frameworks or models are relevant to healthy neighbourhoods and might be utilised in combination with the StaRI guideline. The databases were chosen since social science disciplines dominate the platform's coverage. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis were used to verify the rigour and quality of the literature search (PRISMA). A search from 1999 to the present was done to gather only applicable models or frameworks in general, with the inclusion criteria of no timeline, worldwide, and English language. There were 51 publications or journals discovered with the keyword's healthy neighbourhood, liveable neighbourhood, and sustainable neighbourhood. All titles and abstracts were evaluated to determine the goals, elements, and principles of a healthy neighbourhood in relation to long-term development and social well-being. Only 28 publications were useful and closely connected in establishing the conceptual framework for this study after screening all relevant key phrases. The acceptable papers were obtained using a snowball strategy based on careful selection of the key phrases that were set.

Discussion

Based on the prior discussion of the literature review, a few concepts and models have been employed to determine the healthy neighbourhood features. Model used by Plane and Klodawsky (2013) at Ottawa, Ontario, is a person-centred, community-based approach to providing

affordable, long-term housing. Individual tenants are aided in reaching their best quality of life by housing support professionals, and healthy communities are encouraged to grow. In addition, Yinger (2015) used econometric model at Cleveland, Ohio area which is a hedonic regression. It is widely used to evaluate public services and neighbourhood amenities by utilising property value as the dependent variable. This technique, which considers home heterogeneity and a variety of facilities, provides estimates of the price elasticity of amenity demand directly from the hedonic model, resulting in a healthy neighbourhood with fully provisioned neighbourhood amenities. Asfour and Zourob (2017) studied housing development in Gaza based on the neighbourhood unit concept using the social-oriented planning model. This is crucial in avoiding the model from being completely rejected or adopted on the one hand, and in ensuring a subjective process of reinventing rather than merely borrowing on the other to ensure the dwelling unit is suitable for the inhabitants.

Lim et al. (2017) used structural equation modelling to identify satisfaction with neighbourhood amenities as a strong predictor of social trust in order to enhance people's perceptions of neighbourhood facilities, notably commercial and educational facilities in Kuala Lumpur's new communities. This will primarily result in a healthy neighbourhood atmosphere. Another structural equation modelling by Mouratidis (2020), examined the links between commute satisfaction, neighbourhood contentment, housing satisfaction, and pleasure with other elements of life, as well as subjective well-being components such as life satisfaction, emotion, and eudaimonia for a valid measure of liveability neighbourhood at city region of Oslo, Norway.

Davern et al. (2017) employed a multilevel modelling tool that has been used for decades. This approach has aided in a better understanding of the impact of socioeconomic status and region level deprivation on health. Wineman et al. (2014) Interrelationships between built environment elements and walking behaviour were studied in Detroit, Michigan, USA, using three-level models and hierarchical linear modelling to better understand the design components of healthy neighbourhoods. Both cities have successful and creative place-based leadership models at the neighbourhood level, as well as a greater knowledge of the drivers and circumstances for leadership in healthy place-making (Grant et al., 2017). The basic lot stability intervention was associated with the most consistent reductions in burglaries, but the community land usage intervention indicated more consistent reductions in attacks (Hohl et al., 2019). Binet et al. (2019) Based on the interpretations of resident researchers, early structural equation modelling and factor analysis findings were employed. Multilevel models revealed relationships between neighbourhood deprivation and perceived neighbourhood qualities, whereas linear regression models revealed relationships between neighbourhood deprivation and well-being indicators (Mouratidis, 2020).

The summary of theoretical and modelling framework discussed above, is shown in Table 9. The Structure Equation Model and Multilevel Models are commonly used by the researcher for their analysis. Few authors mention for Social Oriented Planning. While, the rest is Econometric Model, Effective and Innovative Models and Hierarchical Linear Modelling. These frameworks also can be classified as will be classified as physical, social and economic elements.

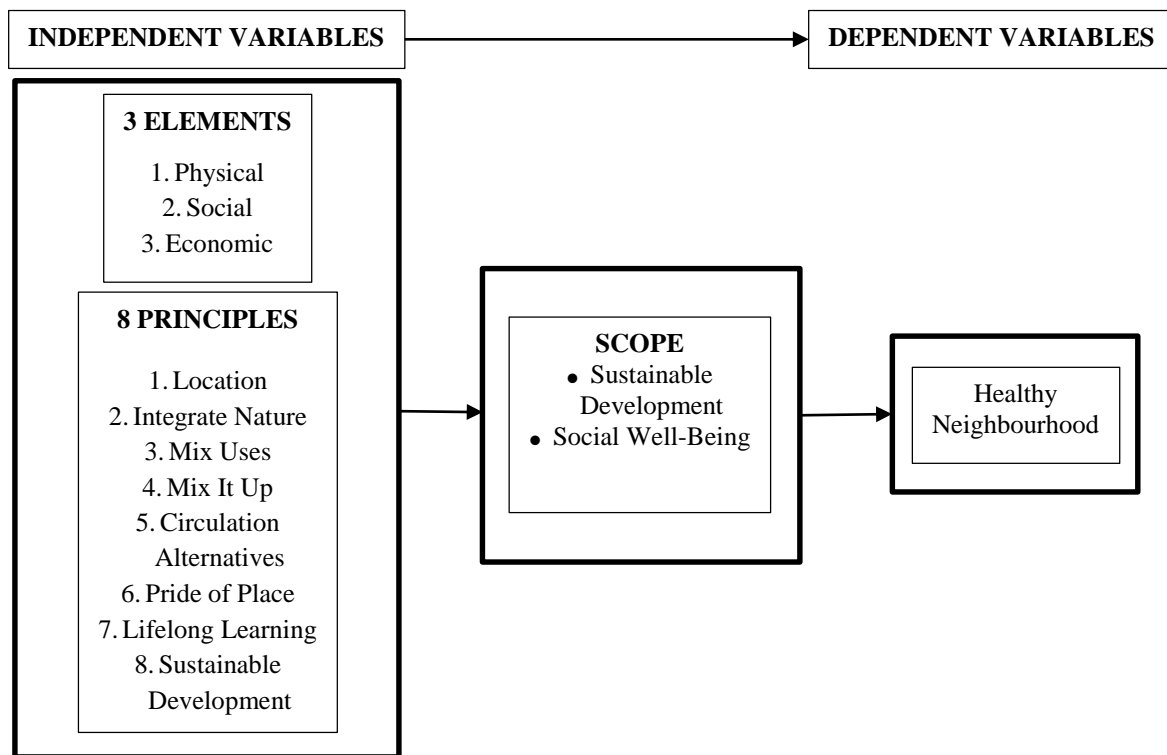
Based on theoretical and modelling framework discussed above, most frameworks have the element of physical, social, economic for healthy neighbourhood. All three elements are basically related with eight principles of healthy neighbourhood discussed earlier. Each of the elements is related with the sustainable development and social well-being. Each principle also has a relationship with the sustainable development and social well-being in establishment of healthy neighbourhood for the development of comprehensive conceptual framework for this paper. The conceptual framework can be summarised as in figure 1 by adapting Duhl and Sanchez

(1999) encourage organic growth and Davern et al. (2017) Neighbourhood facilities, commercial and educational facilities.

Table 9. Summary discussion of model and element in theoretical and model framework

| Model | Author | Healthy elements | Classification |
|---------------------------------|--------------------------|---|----------------------------|
| Structural Equation Modelling | Lim et al. (2017) | Neighbourhood facilities | Physical |
| | Mouratidis (2020) | Neighbourhood contentment, housing, well-being components | Physical & social |
| | Davern et al. (2017) | Neighbourhood facilities, commercial and educational facilities | Physical, social & economy |
| Multilevel Models | Davern et al. (2017) | Level deprivation and socioeconomic status on health | Social |
| | Mouratidis (2020) | Neighbourhood deprivation and well-being measures | Physical & social |
| Social-Oriented Planning | Hohl et al. (2019) | Most consistent reductions in burglaries, | Physical & social |
| | Plane & Klodawsky (2013) | Affordable, permanent housing | Physical, social & economy |
| Econometric Model | Asfour & Zourob (2017) | Housing unit is adequate for the people | Physical & social |
| Effective And Innovative Models | Yinger (2015) | Public services and neighbourhood amenities | Physical |
| | Grant et al. (2017) | Place-based leadership and neighbourhood level | Physical & social |
| Hierarchical Linear Modelling | Wineman et al. (2014) | Built environment features and walking behaviour | Physical & social |

Source: Author, 2023



Source: Author, 2023

Figure 1. Comprehensive Conceptual Framework for healthy neighbourhood by adapting Duhl & Sanchez, 1999 and Davern et al., 2017

Conclusion

Green, sustainable, liveable, quality, new urbanism, safe, and compact communities are just a few of the modern neighbourhood concepts that have been created and implemented. Recent improvements in the concept of neighbourhood have highlighted the need of having a healthy environment. The purpose of this study is to provide an overview of previous researchers' theoretical frameworks in order to establish a conceptual framework for healthy neighbourhoods for long-term and social well-being. This paper offered a thorough conceptual framework for healthy neighbourhoods by digging into the important areas of sustainable development and social well-being. The three classifications and eight principles previously stated must be used and executed in order to establish an ideal and comprehensive healthy neighbourhood. In general, putting them all into practise is difficult, especially when it comes to land development and human expansion. As a consequence, even if a community just adopts or implements a portion of the following eight principles, it has made strides toward creating a healthy community. The conceptual framework will be utilised and evaluated in the future for a holistic healthy neighbourhood.

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References

- Allen, N., Haarhoff, E., & Beattie, L. (2018). Enhancing liveability through urban intensification: The idea and role of neighbourhood. *Cogent Social Sciences*, 4(1).
- Anderson, N. B., Bulatao, R. A., Cohen, B., & National Research Council (US) Panel on Race, E. (2004). What Makes a Place Healthy? Neighborhood Influences on Racial/ Ethnic Disparities in Health over the Life Course. In www.ncbi.nlm.nih.gov. National Academies Press (US).
- Asfour, O. S., & Zourob, N. (2017). The neighbourhood unit adequacy: An analysis of the case of Gaza, Palestine. *Cities*, 69, 1–11.
- Baldwin, C., Vincent, P., Anderson, J., & Rawstorne, P. (2020). Measuring Well-Being: Trial of the Neighbourhood Thriving Scale for Social Well-Being Among Pro-Social Individuals. *International Journal of Community Well-Being*, 3, 361–390.
- Barton, H., Grant, M., & Guise, R. (2020). *Shaping Neighbourhoods*. Routledge.
- Bassett, E. M., & Howerton, H. (2014). *Designing the Healthy Neighborhood: Deriving Principles Fro*. Hart Howerton, Ltd. and University of Virginia.
- Binet, A., Gavin, V., Carroll, L., & Arcaya, M. (2019). Designing and Facilitating Collaborative Research Design and Data Analysis Workshops: Lessons Learned in the Healthy Neighborhoods Study. *International Journal of Environmental Research and Public Health*, 16(3), 324.
- City Council Red Deer. (2013). *Neighbourhood Planning and Design Standards* (p. 1069). The City of Red Deer.
- Cosgrove, D. (2008). Images and Imagination in 20th-Century Environmentalism: From the Sierras to the Poles. *Environment and Planning A: Economy and Space*, 40(8), 1862–1880.
- Danladi Musa, H., Yacob, M. R., & Abdullah, A. M. (2019). Delphi exploration of subjective well-being indicators for strategic urban planning towards sustainable development in Malaysia. *Journal of Urban Management*, 8(1), 28–41.
- Davern, M., Gunn, L., Whitzman, C., Higgs, C., Giles-Corti, B., Simons, K., Villanueva, K., Mavoa, S., Roberts, R., & Badland, H. (2017). Using spatial measures to test a conceptual model of social infrastructure that supports health and wellbeing. *Cities & Health*, 1(2), 194–209.
- Duhl, L. J., & Sanchez, A. K. (1999). Healthy Cities and The City Planning Process: A Background Document on Links Between Health and Urban Planning.
- Falk, N., & Carley, M. (2012). *Sustainable Urban Neighbourhoods Building Communities that Last* (pp. 1–79). Joseph Rowntree Foundation.
- Fröding, K., Geidne, J., Elander, I., & Eriksson, C. (2013). Towards sustainable structures for neighbourhood development? *Journal of Health Organization and Management*, 27(2), 225–245.
- Galster, G. (2001). On the Nature of Neighbourhood. *Urban Studies*, 38(12), 2111–2124.

- Gehrels, H., van der Meule, S., & Schasfoort, F. (2016). *Designing green and blue infrastructure to support healthy urban living* (1st ed., pp. 1–109). Federatie.
- Gibberd, J. (2013). Neighbourhood facilities for sustainability. *WIT Transactions on Ecology and the Environment*, 1.
- Grant, M., Brown, C., Caiaffa, Waleska. T., Capon, A., Corburn, J., Coutts, C., Cresp, Carlos. J., Ellis, G., Ferguson, G., Fudge, C., Hancock, T., Lawrence, R. J., Nieuwenhuijsen, M. J., Oni, T., Thompson, S., Wagenaar, C., & Thompson, C. W. (2017). Cities and health: an evolving global conversation. *Cities & Health*, 1(1), 1–9.
- Gulati, R. (2019). Neighborhood spaces in residential environments: Lessons for contemporary Indian context. *Frontiers of Architectural Research*, 9, 20–33.
- Hohl, B. C., Kondo, M. C., Kajeepeta, S., MacDonald, J. M., Theall, K. P., Zimmerman, M. A., & Branas, C. C. (2019). Creating Safe and Healthy Neighborhoods with Place-Based Violence Interventions. *Health Affairs*, 38(10), 1687–1694.
- Institute of Local Government. (2015). What Makes a Neighborhood Healthy? Institute for Local Government; Institute for Local Government.
- Lim, T. S. Y., Hassan, N., Ghaffarianhoseini, A., & Daud, M. N. (2017). The relationship between satisfaction towards neighbourhood facilities and social trust in urban villages in Kuala Lumpur. *Cities*, 67, 85–94.
- Miska, C., Szócs, I., & Schiffinger, M. (2018). Culture's effects on corporate sustainability practices: A multi-domain and multi-level view. *Journal of World Business*, 53(2), 263–279.
- Mouratidis, K. (2020). Commute satisfaction, neighborhood satisfaction, and housing satisfaction as predictors of subjective well-being and indicators of urban livability. *Travel Behaviour and Society*, 21, 265–278.
- Nijhuis, S., Jauslin, D., & Hoeven, F. V. D. (2015). *Flowscapes. Designing infrastructure as landscape. Research in Urbanism Series* (Vol. 3). Delft University of Technology.
- Perdue, W. C., Stone, L. A., & Gostin, L. O. (2003). The built environment and its relationship to the public's health: the legal framework. *American Journal of Public Health*, 93(9), 1390–1394.
- Pineo, H., Zimmermann, N., Cosgrave, E., W. Aldridge, R., Acuto, M., & Rutter, H. (2018). Promoting a healthy cities agenda through indicators: development of a global urban environment and health index. *Cities & Health*, 2(1), 27–45.
- Plane, J., & Klodawsky, F. (2013). Neighbourhood amenities and health: Examining the significance of a local park. *Social Science and Medicine*, 99, 1–8.
- Tanata Ashby, D., & Pharr, J. (2012). *Building Healthy Communities in Southern Nevada* (pp. 1–8). The Lincy Institute at UNLV.
- Tapsuwan, S., Mathot, C., Walker, I., & Barnett, G. (2018). Preferences for sustainable, liveable and resilient neighbourhoods and homes: A case of Canberra, Australia. *Sustainable Cities and Society*, 37, 133–145.
- Wahi, N., Mohamad, I., Zin, R. M., Munikanan, V., & Junaini, S. (2018). The High-Rise Low-Cost Housing: Sustainable Neighbourhood Elements (Green Elements) in Malaysia. *IOP Conference Series: Materials Science and Engineering*, 341, 012028.
- Wineman, J. D., Marans, R. W., Schulz, A. J., van der Westhuizen, D. L., Mentz, G. B., & Max, P. (2014). Designing Healthy Neighborhoods. *Journal of Planning Education and Research*, 34(2), 180–189.

World Health Organization: WHO. (2019). Ten threats to global health in 2019. In Who.int. World Health Organization: WHO.

Yinger, J. (2015). Hedonic markets and sorting equilibria: Bid-function envelopes for public services and neighborhood amenities. *Journal of Urban Economics*, 86, 9–25.