

Improving Youth's Outdoor Spaces in Public Housing Areas

Muhammmad Iqram bin Sazali¹, Aminuddin A M R², Zuraina Leily Awaluddin³, Sharyzee Mohmad Shukri⁴

^{1,2,3} Department of Architecture, Faculty of Built Environment, University of Malaya, Kuala Lumpur, Malaysia

⁴ Faculty of Architecture and Built Environment, Infrastructure University Kuala Lumpur, Malaysia

*asrilmahjuddin@um.edu.my

Received: 1st Oct 2021

Final version received: 23rd Nov 2021

Youth are like the future of a country. Therefore, it is very important for us to make sure the young grow up smart and have great values that will contribute to the development of the future. Cities in Malaysia are becoming denser and denser as people move in to search for a better life. Plenty of literature materials have been published discussing matters that are related with this subject. This study utilizes that advantage through qualitative method of systematic literature review by gathering all the relevant literature materials from multiple sources such as journals, website, and books and analyse them in finding the relationship between youths and outdoor spaces especially in public housing areas in Malaysia. Analysis shows that outdoor spaces in Malaysia's public housing development is lacking and is highly demanded by the residents, especially the youths. Outdoor space allows for social activities and interaction to happen thus creating a sense of neighbourhood in an area. This is essential to reduce anonymity between the residents and create a sense of community within a residential development. Even though there is a policy of providing 10% green space for a residential development, it is clearly not sufficient for the residents and further investigation needs to be done to improve the life especially of the urban poor living in the cities.

Keywords: Youth, Housing, Outdoor Spaces

1 INTRODUCTION

Besides food and water, shelter is also one of the essentials for human to live. A comfortable and cozy house for someone to live in is a plus and can contribute to a positive mental and physical growth(Pasanen et al., 2019). It is in human nature to do physical activities to keep the mind away from work and stress and enhance the mental state of an individual(C. R. Bates et al., 2018). Especially for the youths who are still in a rapid growth period where they are still improving their motor skills and constantly learning to elevate their mind(Christian et al., 2015).

Play is an important factor in their development as that is when they are learning the most and contribute to either their physical or mental growth (B. Bates & Stone, 2015). In the UN Convention on the Rights of the child also includes play as one of the children's rights. Children also play more outdoor does not matter if the space is constructed for play or not (Woolley, 2021). Therefore, available outdoor spaces that allows them to do so is the key element in encouraging this. Other than that, outdoor spaces creates a positive space where the neighbourhood can enjoy collectively while reducing violence to happen which could contribute to increase the numbers of residence doing physical activities. In addition, the outdoor space

also have to be designed considering safety in mind as it could increase physical activities happening at the outdoor (Echeverria et al., 2014).

It is proven from a study that there are still quite a big number of families that struggle to survive day by day (Omar et al., 2016a). Low cost public housing has been built throughout the countries under the Program Perumahan Rakyat (PPR) to provide the citizens with quality and adequate place to stay especially those with lower income. The facilities that are provided at all these PPR apartments is very limited as the planning of the housing itself is very tight as it focused more on parking space and commercial areas resulting in scarcity of space to allocate outdoor spaces for healthy activity and interaction (Omar et al., 2016a). Active transport is proven to have direct link to physical activity level of an individual, designing residential spaces while associating active transport could help in reducing being reliant to motorized vehicles. Built environment that is supporting the existing urban infrastructure such as street could greatly help encouraging active transport (De Meester et al., 2013) In addition, green cover is also lacking creating a poor condition of outdoor spaces in high rise developments, further reducing user count. (Yuen & Yeh, 2013)

Urbanization that is happening rapidly in cities is decreasing access to natural outdoor environment which could contribute to negative mental and physical health to people. Natural outdoor environment is essential and have huge impact to a human being. Mental illness could be brought down by increasing access to natural areas (Liu et al., 2021) The design of the natural outdoor space should contribute in increasing the sense of neighborhood of an area as this would create a positive perception of the community allowing parents to allow their kids to play outside with less monitoring. This could significantly increase physical activities happening at the outdoor (Yu et al., 2019). This practice cannot be seen growing in most public housing as developments are mostly oriented towards the benefit of tourists and visitors (Johansen et al., 2021)

Good values and characters need to be implanted early into the heart and mind of the youths for them to grow up to be a responsible citizen that will contribute to the society (Delattre & Delattre, 2005). In most low cost housing projects, the youths or the occupants in general have limited source of outdoor spaces where they can use to do healthy activities and interact with other people (Omar et al., 2016a). School and the home itself is the only place where the youth can actually communicate and learn, whereas they are at a life phase of high brain activity. They are still developing their skill to think rationally and to make sensible judgement. Sound judgement and rational thinking is not an easy thing to do as adults, let alone the youths. Therefore outdoor spaces and its design is very important for them to get early exposure and socialize with other people in order to develop further their way of thinking positively (Delattre & Delattre, 2005).

This paper aims to study the relationship between youths and outdoor space and how it positively affect them specifically in a housing area. Along with that, this paper is directed to investigate on the outdoor spaces in existing public housing in Malaysia and how it contribute to the residence development especially the youths. Besides that, this research is also to locate which part of the outdoor space where residents in general can share and enjoy daily. The study was done by investigating all forms of literature materials to find out the recurring issues and possible solution to existing problem.

2 METHODOLOGY

The study was done while guided by three research questions which are a) how does outdoor spaces affect the positive development of people especially the youth? b) What is the best outdoor space planning in a housing project? c) where is the outdoor space which the residents in general can share and enjoy daily? These research questions are important to determine which practice is the best to be applied in future public housing projects.

Qualitative method was selected to find out the answers to these questions which is by systematic literature review approach. Through this approach, perspective regarding youths and outdoor spaces in a public housing development could be further broaden up. Initial literature review was done that focusses on investigating the relationship between youth and

play and how it affects their physical and mental state. This is to fully understand the underlying factor that could contribute to improving the environment surrounding them. Later, systematic literature review was done by studying more than 50 literature materials gathered through various sources to be extracted and analyzed. The literature materials selected were those that are directly and indirectly relevant to the study and is searched by using keywords from this study which are 'housing', 'youth' and 'outdoor space'.

Reading materials such as books, journal, articles and website regarding the topic of the study will be analyzed guided by 3 keywords for this research that is 'housing', 'youth' and 'outdoor spaces' that help to narrow down the data collection from the multiple sources. From the relevant data collected, the information was studied and recurring information will then be laid out to find the common denominator involving the research topic. This method will help in determining the relationship between outdoor spaces and youths in a more theoretical point of view. Information relevant to the best planning practice in public housing projects around the world will also be gathered and studied, specifically the multiple level housing ones. The information gathered from multiple sources such as newspapers, books, journals and articles are then documented by categorizing them into related keyword or theme that is housing, youth and outdoor spaces.

3. RESULTS/FINDINGS

3.1 THEME 1: YOUTH

Analysis from the materials collected guided by the youth/children theme, several findings arise. Youths play and physical activity is correlated with accessibility to outdoor spaces (Gómez et al., 2004) and it is proven that they need access to nature as this will increase their mental and physical growth. Decrease in number of youths presence outdoor is also proven to contribute to increase in crime rate in a neighbourhood (Gómez et al., 2004). Besides that, outdoor spaces and activities enhance the character development of the users as interaction of an individual with others increases (Omar et al., 2016). Youths character development will also be halted through the lack of planning in a residential areas as unseen barriers exist preventing the youths from adopting self-developed skills and social engagement with others outside their family bond (Ariff et al., 2015). This will also decrease their active transport in moving around to places such as school and public field. Youths who utilizes active transport are significantly more active than those who does not (Larouche et al., 2019)

For the psychological development of the youths, physical activity is proven to be essential during childhood (Sheikh Ilmi et al., 2018). Play has always been a way for children to be in a natural learning condition. A study suggests that outdoor environment affects children more than any other age group. Linguistic, mental, social and motor skills will be developed through play (Acar, 2014). Other than that, the program among the youth itself is also important and should have appropriate content and structure as it could highly influence the participation among the youths (Hamid et al., 2016). Crime and safety concern in an outdoor area is also a factor contributing to the decreasing youths spending time in the outdoor spaces as adults will always supervise their kids in such spaces making the children's cognitive, physical, emotional and social growth to be interrupted (Shamsuddin et al., 2014). There also exist a gender gap in utilizing the public spaces as the youths start to grow older (Maneval, 2019)

3.2 THEME 2: HOUSING

Health factor seems to be a concern in most urban poor areas in Malaysia. Housing condition have to be good as it is interrelated to individuals mental and physical health conditions (Zainal et al., 2012). It is stated in a research also how important supporting functional spaces such as stairs and corridors in improving the quality of life for the residences. Besides that, in creating a conducive environment in a neighborhood, sense of place is essential to be embedded to the residence

living in an area (Abdul Aziz et al., 2017). In addition, parks and outdoor areas are mostly still being neglected by developers and were done to only fulfill the minimum guidelines which at the moment is only 10% of the whole development while it is an important factor contributing to create the sense of place in a residential area (Jamaludin et al., 2014; Bakhtyar et al., 2013).

Besides that, urban infrastructure being too vehicle centric has been a problem as accident case increases in residential areas which decreases the sense of place as lesser youths going out to play outside (Hanapi & Sh Ahmad, 2017). Some countries are starting to adapt autonomous vehicles which could help in providing a safer housing development to improve the quality of life for the residents (Cavada et al., 2019). Civic spaces is where people learn about economic, political and ideological aspect of the world and needs to be emphasized in design to make it successful (Robin & Rothschild, 2002). It is proven that outdoor spaces that are located far from the residential areas where people need to travel there reduce the desire to do activities (Corporation, 2016).

Research has also found that there exist 2 domains in a housing development which is physical and social. Physical domain are the physical elements exist in a housing development such as the housing unit and infrastructures meanwhile social domain are the residents, people and neighborhood of the place. These 2 domains have to be integrated well in the design to make a particular housing area work (Karim, 2012). In addition, physical domain should come first as it is important to encourage the built of social domain making residence feel like they are in a respectable area and encourage them to interact with others (Bothwell et al., 1998). The physical domain also has to be aesthetically pleasing and well maintained as it is essential to elevate the emotion and attitude of the residents (Lay & Reis, 2003). Besides that, it is shown in several studies that high rise housing causes many negative outcomes to the residents such as increasing of social problems, weaken social relation between families and the youths in the upper level have reduce play time compared to those down below Aminuddin, A.M.R., Yong, G.K. (2009) and (Li, 2013; Yuen & Yeh, 2013).

3.3 THEME 3: OUTDOOR SPACES

The availability and accessibility of outdoor spaces in a residential areas is important to increase the number of people being mentally and physically healthy (Huang, 2006; Salleh, 2008; Bakar et al., 2016). Limited green spaces in most low cost housing development is contributing to more people being physically and mentally ill (C. R. Bates et al., 2018; Ariff et al., 2015). This is becoming a concern as residence satisfaction is highly incorporated with outdoor spaces and its existing features which is reducing more and more as developers tend to neglect these spaces (Mohit et al., 2010). It is important to highlight that accessibility is not just about distance but the journey itself to the outdoor space (Dasimah Omar et al., 2017).

Besides that, safety has been highlighted in a research as a big concern in most public housing as it reduces the number of people in general doing activities outside (Salleh, 2008). The condition and safety of outdoor spaces is essential to create that sense of community which automatically will create a passive surveillance within the neighborhood (Sheikh Ilmi et al., 2018). Intelligent configuration of the housing block that creates different outdoor space function and experience could allow such thing to happen (Abdul Aziz et al., 2017) A study to the youths living in public housing has shown that they want to have more outdoor spaces to perform their leisure and physical activities which could result in enhancing their character development (Omar et al., 2016b). Outdoor spaces also create the opportunity to engage and interact with other residences enhancing the sense of neighborhood in a residential area (Jamaludin et al., 2014). In order to attract people to really use an outdoor space, it has to meet a certain quality to meet the satisfactory level of the residence.

It is shown in a research that most public housing in Asian cities are lacking green elements which could result in poor microclimatic condition (Yuen & Yeh, 2013). Trees are an essential natural factor in an open space especially to shade its

users and helps people to relax and reduce stress at the same time (Aydin & Ter, 2008). A research also found that youths and adults generally are attracted to outdoor space which have more greeneries (Taylor et al., 1998). A good outdoor space should not be just visually attractive but also allows for social activities to happen in order to establish a sense of neighborhood in a residential area where if properly planned could effectively be an activity node (Huang, 2006). In addition, a quality public spaces provided in a residential area could also increase the land value of the place (Space, 2013). Other than that, street furniture is also important as it contribute in attracting people to use the outdoor space, therefore the configuration itself has to aid in encouraging interaction and engagement between users (Huang, 2006).

4. DISCUSSION

The information gathered from multiple sources shown that the public housing developments in general are not satisfying enough for the residents to enjoy living in it (Mohit et al., 2010). There is no sense of community in a housing development (Hanapi & Sh Ahmad, 2017), this is because occupants do not really know their neighbours therefore creating doubts in their mind leading to perception of the place not being safe for their children to play outside. Adults in high rise public buildings tend to interact internally (Robin & Rothschild, 2002) meaning only within their household, very less interaction happen with the neighbours. This is important to create a friendly neighbourhood where passive surveillance happen and the parents would allow their kids to play outside as they trust their neighbours and their neighbours on the other hand would supervise the kids who is within their vicinity Aminuddin, A.M.R., Yong, G.K. (2009). This is crucial for the kids or youth so that they could really engage with the outdoor space provided and interact with their peers. In addition, from this they could develop their social skill and general knowledge all the while giving them more confidence in interacting with people surrounding them.

4.1 THEME 1: YOUTH

In general, for most public housing development in Malaysia, the youths have been associated with problems and juvenile behaviour. As an overview, the youths need spaces to do their activities as in nature they are still developing and are at a period where they have the urge to socialize and do physical activities to fill in their leisure time. The lack of appropriate space (Abdul Aziz & Ahmad, 2017) for them to do so lead them to any other activities that they can get a hold on. The youths demand for facilities to accommodate their needs (Hanapi & Sh Ahmad, 2017). This is critical for them to allow for positive growth in their body and mind. Besides that, the youths also have the urge to do physical activities outdoor and interact with people and by having a good outdoor environment for them could improve their health, increase the gross motor skill, and allow them to explore which will enhance their creativity development (Curtis, 2020).

In high rise public housing, most youths will spend their time either at the corridor for the young ones and for those who are older will use spaces which give them a bit of privacy such as the staircase. This results from poor planning which neglect the needs for outdoor common space for the residence which mainly affects the youths as outdoor space is crucial for them. Youth period is a very active stage in life where they move and socialize a lot to learn about the world surrounding them and in a quest to find themselves (Acar, 2014). It is proven that youths need to have access to outdoor public spaces that allow for physical movements and social engagement that will contribute to positive growth in physical and mental aspect. In most research done, it is shown that youths demand for more areas that could cater to their needs that is to engage in recreational activities and interact with their peers.

Youth is a very important period where they develop their cognitive skill and also motor skills. Through availability and accessibility of an outdoor space for the youths, their social skill will be improved as they can communicate with people from

all ages especially their peers(Aziz & Ahmad, 2012). Social engagement between them and also with the adults will make them feel more connected to the community and develop the positive values inside them(Delattre & Delattre, 2005). There also exist a gender gap within the youths which will reduce even further character development between them. Interesting program within the neighbourhood could also help in attracting the youths and nurture them to be a responsible citizen as they grow up as it increases social participation, contributing to the community or country. Parents in most public housing development are afraid in allowing their kids to play outside as the design of the residential areas itself is unsafe and lack natural surveillance, full with hidden nooks and alleys(Hanapi & Sh Ahmad, 2017). Adults participation in youths recreational activities is essential to allow the youths to feel more as part of the community.

4.2 THEME 2: HOUSING

Housing in Malaysia which have most problem regarding its common spaces are mostly the low cost and affordable ones(Zainal et al., 2012). They have been treated as black sheep for most developers and is erected just for the sake of fulfilling the requirement. As the density increases, the need for outdoor space for socializing and engagement with the neighbours are becoming more and more scarce and can be considered a luxury in affordable housing projects and below(Hanapi & Sh Ahmad, 2017). This will lead to a negative development especially for those who are from the urban poor group. Outdoor common space is crucial for social interaction that will help to spark the sense of place feeling in a neighbourhood. The requirement laid out by the government are 10% of a development to be resorted into green areas for recreational purpose(Jamaludin et al., 2014). This is deemed to be very low considering the increase in density in low cost and affordable housing projects.

The informal shared spaces in a high-rise housing projects such as corridor and staircase are mainly utilized by the residents and definitely the youths to interact and play with their friends. This is because the design of the housing project itself is not considering the 3-dimensional nature of architecture. As building go up, the residence who is staying further up will get further and further away from the allocated outdoor space is which most of the time at the ground floor level. This restricts them from socializing and engaging with their neighbours. Condition of the place where people live is very important as it will affect the occupants in many ways whether good or bad. In general, public housing condition is mostly bad thus affecting the occupant's health negatively(Lay & Reis, 2003). In many of the research found that sense of neighbourhood being one of the most important factor in making a housing development successful(Bothwell et al., 1998)l. The sense of neighbourhood is created from the residents there knowing and creating connection between each other. In result, reducing the anonymity between the residents building trust in each other.

Greeneries in a housing environment is essential to enliven outdoor spaces and bring in more people for engagement. Trees also at the same time provide shade especially in Malaysia hot and humid climate. Sadly, green environment has turned into a luxury as developers mostly neglect the need for this and provide just to fulfil the requirement. Besides that, greeneries are marketed in a development as something only for the rich and creating this stigma to people in general whereas it is essential to every human being. Aminuddin, A.M.R., Yong, G.K. (2009) explained that low coost public housing also focusing the ground floor for vehicles resulting in a vehicular centric development, creating unsafe environment to the residents and especially youths and children who are physically active moving here and there on the ground floor. During design stage, relationship between the indoor and outdoor need to be focused on and treat as one continuous built environment to attract and encourage more interaction and engagement between the residents. Therefore, social and physical domain of a housing project need to be designed concurrently to enhance the relationship between them.

4.3 THEME 3: OUTDOOR SPACES

Outdoor space is a much needed space especially for the youths (Sheikh Ilmi et al., 2018) as they need the space to develop their physical and mental development by interacting with the environment and also to the people around them. In most low cost or affordable housing, outdoor space is deemed only as a requirement that they need to fulfil rather than to improve the occupant lifestyle. Several factors are very important in order to make an outdoor space work such as accessibility, availability and safety of the facility provided. Outdoor space has to be in the vicinity of the unit. Parents nowadays in general are very scared to allow their children to go outside and prefer for them to play with phones and such at home just because they know they are safe at home and they can supervise them. While in fact, their children need to go outside to interact and do physical activities as they are naturally active and this helps in their cognitive and psychological growth.

Outdoor spaces in public housing can be said as a connecting factor for the residents living in an area. Most reading materials mention lacking of outdoor space in most public housing in Malaysia and the residents highly demand for public social space. Outdoor spaces are much needed to enhance the sense of neighbourhood through interaction between the residents. Besides that, the existing outdoor spaces in most public housing projects is also lacking several aspects that is safety, accessibility, availability and social interaction (Omar et al., 2016). It is found that the issue caused by several factors, but the main contributor to this issue is the design revolve around vehicles rather than human. Public housing should be configured intelligently by making the outdoor space more accessible to the residents in order for the residents especially the youths to enjoy therefore building character in their self while improving the sense of neighbourhood in between them.

In addition, provision without the maintenance is pointless, outdoor public space needs maintenance from time to time in order to uphold the quality of the space and attract people to actually use it. Other than that, integration of green (Aydin & Ter, 2008) is important as it enhance the experience in one and encourage more physical activities and improve quality of life in a residential development. Multiple activities and function can also happen in one outdoor space, therefore it needs attention in the design to allow that to happen. If an outdoor space is designed properly, more than one activity can happen in big outdoor space rather than dividing the huge space into smaller division. Moreover, division of outdoor space into a smaller private ones is not that beneficial to the residents as it does not improve the interaction between the neighbourhood. Outdoor space should be treated as an extension of the living room of a unit meaning the connectivity between them need to be established to allow for more people to really use the space and engage with the community. Provision of outdoor spaces is very beneficial as it attracts economic activity in them therefore increasing the land value at the same time. In addition, residents will also feel proud and respectable of where they live, creating a strengthen sense of belonging to the residents.

5.0 CONCLUSION

From this research, several existing issues and potential ways to solve them arises. Policy maker should definitely update their policy regarding public housing or low-cost housing. One of the things to consider is to increase requirement for common green areas as it is clearly lacking and perhaps new requirement to create common outdoor spaces on upper levels could be included. Spaces such as corridor, lift lobby and staircase could be utilized as it is a space that is connected visible to most units in a multi-level residential development. These spaces can be more than just corridors or staircase and there is a lot of room for improving its aesthetic also. Furthermore, greeneries should be incorporated more in housing development's design as it is proven to allow more participation of adults in youth's act of play creating natural surveillance and increasing engagement between them strengthening the sense of neighbourhood between them.

Sense of neighbourhood or sense of community is very important as it builds trust between residents decreasing anonymity among them. This will increase engagement and interaction in between residents creating that safe feeling living among friends and families. Other than that, interesting programs are needed to attract youth's participation. Current trending activities could be used to attract them such as Beyblades, etc. Their energy and enthusiast can be channel to a proper and appropriate source which will improve their confidence while appreciating the neighbourhood and community they are living in. The design and configuration of the housing development also should prioritize human instead of vehicles. A lot of thought needs to be put into the design of the street as it is what connecting the outside with the housing area. Street can be not just street but also a place where the residents can use for activities and interaction in between them. Street furniture and greeneries can be integrated as a whole which will contribute to enhancing the aesthetic while providing a pleasant place for people to hang around and engage with their surroundings.

REFERENCE

- Abdul Aziz, A., & Ahmad, A. S. (2017). Flat Layouts and Children Outdoor Activities. *Asian Journal of Environment-Behaviour Studies*, 2(3), 57–66. <https://doi.org/10.21834/aje-bs.v2i3.189>
- Abdul Aziz, A., Ahmad, A. S., & Nordin, T. E. (2017). Flats Outdoor Space as a Vital Social Place. *Asian Journal of Environment-Behaviour Studies*, 2(5), 39–51. <https://doi.org/10.21834/aje-bs.v2i5.221>
- Acar, H. (2014). Learning Environments for Children in Outdoor Spaces. *Procedia - Social and Behavioral Sciences*, 141(June), 846–853. <https://doi.org/10.1016/j.sbspro.2014.05.147>
- Aminuddin, A.M.R., Yong, G.K. (2009) Study on lowcost high rise urban housing in Kuala Lumpur - Impact on communities and social spaces. *International Journal for Housing Science and Its Applications* this link is disabled, 2009, 33(2), pp. 117–126
- Ariff, K., Othman, S., & Mohd, Z. (2015). *Youth Characters and Outdoor Space Development : A mixed-method study on Public Housing in Urban Area*. October, 7–8.
- Aydin, D., & Ter, U. (2008). OUTDOOR SPACE QUALITY : CASE STUDY OF A UNIVERSITY CAMPUS PLAZA Dicle Aydin and Ummugulsum Ter. *Archnet-IJAR, International Journal of Architectural Research*, 2(3), 189–203.
- Aziz, A. A., & Ahmad, A. S. (2012). Low Cost Flats Outdoor Space as Children Social Environment. *Procedia - Social and Behavioral Sciences*, 38(December), 243–252. <https://doi.org/10.1016/j.sbspro.2012.03.346>
- Bakar, N. A., Malek, N. A., & Mansor, M. (2016). Access to Parks and Recreational Opportunities in Urban Low-income Neighbourhood. *Procedia - Social and Behavioral Sciences*, 234, 299–308. <https://doi.org/10.1016/j.sbspro.2016.10.246>
- Bakhtyar, B., Zaharim, A., Sopian, K., Saadatian, O., & Moghimi, S. (2013). Quality housing in affordable price for Malaysian low income. *WSEAS Transactions on Environment and Development*, 9(2), 78–91.
- Bates, B., & Stone, M. R. (2015). Measures of outdoor play and independent mobility in children and youth: A methodological review. *Journal of Science and Medicine in Sport / Sports Medicine Australia*, 18(5), 545–552. <https://doi.org/10.1016/j.jsams.2014.07.006>
- Bates, C. R., Bohnert, A. M., & Gerstein, D. E. (2018). Green schoolyards in low-income urban neighborhoods: Natural spaces for positive youth development outcomes. *Frontiers in Psychology*, 9(MAY), 1–10. <https://doi.org/10.3389/fpsyg.2018.00805>
- Bothwell, S. E., Gindroz, R., & Lang, R. E. (1998). Restoring Community through Traditional Neighborhood Design: A Case Study of Diggs Town Public Housing. *Housing Policy Debate*, 9(1), 89–114.

<https://doi.org/10.1080/10511482.1998.9521287>

- Cavada, M., Tight, M. R., & Rogers, C. D. F. (2019). A smart city case study of Singapore-Is Singapore truly smart? In *Smart City Emergence: Cases From Around the World*. Elsevier Inc. <https://doi.org/10.1016/B978-0-12-816169-2.00014-6>
- Christian, H., Zubrick, S. R., Foster, S., Giles-Corti, B., Bull, F., Wood, L., Knuiiman, M., Brinkman, S., Houghton, S., & Boruff, B. (2015). The influence of the neighborhood physical environment on early child health and development: A review and call for research. *Health and Place*, 33, 25–36. <https://doi.org/10.1016/j.healthplace.2015.01.005>
- Corporation, N. D. (2016). *Recreation Amenities for Apartment and Townhouse Developments The City of Johnson*. July. <http://www.cityofjohnston.com/DocumentCenter/View/1814/Proposed-Recreational-Amenities-Report---Final-July-2016?bidId=>
- Curtis, A. (2020). Play and the learning environment. *A Curriculum for the Pre-School Child*, 114–130. <https://doi.org/10.4324/9780203131763-14>
- Dasimah Omar, Kamarul Ariff Omar, Zuriyati Kamaluddin, Saberi Othaman, & Zaharah Mohd Yusoff. (2017). Recreational Facilities for Youth in Malaysian Urban. *Journal of the Malaysian Institute of Planners*, 15(2), 67–74.
- De Meester, F., Van Dyck, D., De Bourdeaudhuij, I., Deforche, B., & Cardon, G. (2013). Does the perception of neighborhood built environmental attributes influence active transport in adolescents? *International Journal of Behavioral Nutrition and Physical Activity*, 10, 1–11. <https://doi.org/10.1186/1479-5868-10-38>
- Delattre, E., & Delattre, A. (2005). Helping your child become a responsible citizen. *US Department of Education*, 4–5.
- Echeverria, S. E., Kang, A. L., Isasi, C. R., Johnson-Dias, J., & Pacquiao, D. (2014). A community survey on neighborhood violence, park use, and physical activity among urban youth. *Journal of Physical Activity and Health*, 11(1), 186–194. <https://doi.org/10.1123/jpah.2012-0023>
- Gómez, J. E., Johnson, B. A., Selva, M., & Sallis, J. F. (2004). Violent crime and outdoor physical activity among inner-city youth. *Preventive Medicine*, 39(5), 876–881. <https://doi.org/10.1016/j.ypmed.2004.03.019>
- Hamid, N. H., Ahmad, A. R., & Awang, M. M. (2016). The effect of leisure time activities on life quality of youth in Malaysia. *International Conference on Education and Regional Development 2016, April 2017*, 1–5.
- Hanapi, N. L., & Sh Ahmad, S. (2017). Children Activities in Public Housing. *Asian Journal of Quality of Life*, 2(5), 1. <https://doi.org/10.21834/ajqol.v2i5.6>
- Huang, S. C. L. (2006). A study of outdoor interactional spaces in high-rise housing. *Landscape and Urban Planning*, 78(3), 193–204. <https://doi.org/10.1016/j.landurbplan.2005.07.008>
- Jamaludin, S. N., Mohamad, N. H. N., & Thani, S. K. S. O. (2014). Designing Conducive Residential Outdoor Environment for Community: Klang Valley, Malaysia. *Procedia - Social and Behavioral Sciences*, 153, 370–383. <https://doi.org/10.1016/j.sbspro.2014.10.070>
- Johansen, P. H., Fisker, J. K., & Thuesen, A. A. (2021). ‘We live in nature all the time’: Spatial justice, outdoor recreation, and the refrains of rural rhythm. *Geoforum*, 120(February), 132–141. <https://doi.org/10.1016/j.geoforum.2021.01.025>
- Karim, H. A. (2012). Low Cost Housing Environment: Compromising Quality of Life? *Procedia - Social and Behavioral Sciences*, 35(December 2011), 44–53. <https://doi.org/10.1016/j.sbspro.2012.02.061>
- Larouche, R., Mitra, R., & Waygood, E. O. D. (2019). Transport and physical wellbeing. In *Transport and Children’s Wellbeing*. Elsevier Inc. <https://doi.org/10.1016/B978-0-12-814694-1.00002-6>
- Lay, M. C. D., & Reis, A. T. (2003). *The Influence of Physical Changes in Communal Open Spaces on Performance Evaluation of Housing Schemes*. 123. https://www.brikbase.org/sites/default/files/EDRA34-Lay-Reis_1.pdf
- Li, C. (2013). *Liveability of High-rise Housing Estates – Case studies in the inner city of Tianjin , China*. September. <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.600596>

- Liu, Y., Xiao, T., Liu, Y., Yao, Y., & Wang, R. (2021). Natural outdoor environments and subjective well-being in Guangzhou, China: Comparing different measures of access. *Urban Forestry and Urban Greening*, 59(May 2020), 127027. <https://doi.org/10.1016/j.ufug.2021.127027>
- Maneval, S. (2019). *Navigating urban space : Jeddah , early twenty-first century*.
- Mohit, M. A., Ibrahim, M., & Rashid, Y. R. (2010). Assessment of residential satisfaction in newly designed public low-cost housing in Kuala Lumpur, Malaysia. *Habitat International*, 34(1), 18–27. <https://doi.org/10.1016/j.habitatint.2009.04.002>
- Omar, K. A., Omar, D., Othman, S., & Yusoff, Z. M. (2016a). Reviewing Youth Facility Requirements for Low-cost Housing in Malaysia. *Procedia - Social and Behavioral Sciences*, 222, 702–709. <https://doi.org/10.1016/j.sbspro.2016.05.231>
- Omar, K. A., Omar, D., Othman, S., & Yusoff, Z. M. (2016b). The Relationship between Youth Activities and Outdoor Features in Urban Neighbourhood Space. *Procedia - Social and Behavioral Sciences*, 234, 271–279. <https://doi.org/10.1016/j.sbspro.2016.10.243>
- Pasanen, T. P., White, M. P., Wheeler, B. W., Garrett, J. K., & Elliott, L. R. (2019). Neighbourhood blue space, health and wellbeing: The mediating role of different types of physical activity. *Environment International*, 131(June), 105016. <https://doi.org/10.1016/j.envint.2019.105016>
- Robin, C., & Rothschild, N. A. (2002). Archaeological ethnographies: Social dynamics of outdoor space. *Journal of Social Archaeology*, 2(2), 159–172. <https://doi.org/10.1177/1469605302002002965>
- Salleh, A. G. (2008). Neighbourhood factors in private low-cost housing in Malaysia. *Habitat International*, 32(4), 485–493. <https://doi.org/10.1016/j.habitatint.2008.01.002>
- Shamsuddin, S., Zaini, K., & Sulaiman, A. B. (2014). Effectiveness of Gated Communities in Providing Safe Environments for Children's Outdoor Use. *Procedia - Social and Behavioral Sciences*, 140, 77–85. <https://doi.org/10.1016/j.sbspro.2014.04.389>
- Sheikh Ilmi, H., Meor Gheda, M. L., & Ahmad Yusof, N. (2018). Neighbourhood Safety and Outdoor Play Activities among Urban Children in Shah Alam, Malaysia. *IOP Conference Series: Materials Science and Engineering*, 401(1). <https://doi.org/10.1088/1757-899X/401/1/012031>
- Space, C. (2013). The Impact on Physical and Mental Health. *Exchange Organizational Behavior Teaching Journal*.
- Taylor, A. F., Wiley, A., Kuo, F. E., & Sullivan, W. C. (1998). Growing up in the inner city: Green spaces as places to grow. *Environment and Behavior*, 30(1), 3–27. <https://doi.org/10.1177/0013916598301001>
- Woolley, H. (2021). Beyond the Fence: Constructed and Found spaces for children's outdoor play in natural and human-induced disaster contexts – Lessons from north-east Japan, and Za'atari refugee camp in Jordan. *International Journal of Disaster Risk Reduction*, 56(February), 102155. <https://doi.org/10.1016/j.ijdrr.2021.102155>
- Yu, R., Wong, M., & Woo, J. (2019). Perceptions of Neighborhood Environment, Sense of Community, and Self-Rated Health: an Age-Friendly City Project in Hong Kong. *Journal of Urban Health*, 96(2), 276–288. <https://doi.org/10.1007/s11524-018-00331-3>
- Yuen, B., & Yeh, A. (2013). high rise living in asian cities. In *springer* (Vol. 53, Issue 9).
- Zainal, N. R., Kaur, G., Ahmad, N., 'Aisah, & Khalili, J. M. (2012). Housing Conditions and Quality of Life of the Urban Poor in Malaysia. *Procedia - Social and Behavioral Sciences*, 50(July 2012), 827–838. <https://doi.org/10.1016/j.sbspro.2012.08.085>