

Social and psychological Issues of dwellers of high rise buildings: Survey of literature

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Abstract:

The high rise buildings are product of new market equations, liberalized economy. Developers are making lot of propaganda of their high rise projects and trying to make high rise buildings more popular for their own benefits. Seldom do they talk about shortfalls, the residents of high rise buildings face. Shortfalls may range from loneliness feeling of residents to behavior problems. Architects, developers, planners and all those having stake in high rise residential buildings are called upon via this paper to focus on social and psychological issues faced by residents of high rise buildings. Areas of future research such as remedy for the issues is also needed.

Purpose of study:

The evidence from a recent study in China endorses that housing is a key social determinant of mental health. The effect on mental health of people varies with housing conditions of people. Exposure to housing disadvantages in living space (overcrowding, lack of basic living facilities; damp, cold, and moldy housing), housing stability (staying longer at one place), and perception of housing satisfaction are significantly associated with poor mental health (i.e., stress, anxiety, and depression). Compared with “housing disadvantages in living space” and “instability”, subjective housing status like housing satisfaction is a better predictor of an individual’s mental health. The perception of housing satisfaction partly mitigates the adverse effects of “housing disadvantages in living space” and “instability” on some aspects of mental health. (Lijian Xie, 2021). So it’s necessary to have better satisfaction of residents which is possible by appropriate psychosocial environment.

The need for present research is also evident from a survey carried out by Council of Tall Buildings and Urban Habitat (CTBUH). In the survey, respondents had given top priority to research on social issues of tall buildings over other technical issues. The highest preference for need of research was to social

sustainability of tall buildings including social behavior of people, community and lifestyle followed by massing of the buildings and interactive spaces between buildings. (Philip Oldfield, 2014).

Attempt to compile such social and psychological issues have been done earlier in some research papers (Gifford, 2007). But there has been more research and publications recently. The research has also been interdisciplinary. So the earlier published work needs to be updated with new findings. The author has found this gap in literature and hence this exercise of writing a new paper.

This paper tries to list the social and psychological issues that people face in high rise buildings from literature like research papers. Attempt of the author of this paper is to put in one place as many as possible the social and psychological issues in one place for immediate reference for further research. This is necessary to make developers of high rise buildings aware of its shortfalls and help them take corrective steps. In city like Pune, or for that matter, any other tier two city, high rise buildings are recently coming up, author feels that this paper making developers and architects aware about high rise community issues is much in need.

Introduction

High rise buildings in cities are unavoidable, given the population increase and scarcity of land. There is definite trend towards high rise buildings. People migrating to cities are new to the city cultures and find better comfort and security in gated communities consisting of high-rise structures. Home buyers prefer high rise also because they consider it as status representation. The advantages of high rise buildings are:

1. Tall thin buildings have smaller footprints than the equivalent number of low-rise housing units, and therefore, occupy less land area resulting in more open spaces and park areas. New high – rises in Pune occupy as little as 15% of land coverage.
2. High rise buildings offer better views at least from upper floors.
3. Residents get better urban privacy.
4. The usual central urban location of high-rise buildings is an advantage. Many services and transportation options are likely to be near, and the large number of nearby neighbors afford greater potential choice of friends and acquaintances for social support (Arza Churchman, 1984). Since large plots are needed for building high-rises, the high rises automatically about wider roads and enjoy better accessibility unlike standalone houses, which may have access from narrower roads and can be away from public amenities like public transportation.

5. Better light and ventilation for residents on upper level and reduced noise.

In spite of its popularity, there have been many studies which point out that the people are less satisfied in high rise buildings than those staying in low rise buildings.

Definition of High rise building

According to National Building Code of India, high rise building is building more than 15m in height. Even the Unified Rules also concur with the same definition (Urban Development Department, Government of Maharashtra, 2017). The building more than this height needs a lift. All over world, various definitions exist. But for our study, the definition given in National Building Code of India is adopted.

Methodology

The issues faced by residents of high rise buildings are studied from secondary sources such as websites, research papers, and news media and so on.

Issues in high rise buildings:

1. Lesser connect with outdoors: Residents are less likely to leave house and go outdoors (Campos, 2012). So people become lonelier. (Bird, 2020) Connect with ground is important for a more meaningful society (Correa). However. Some contact with ground is possible from lower level floors up to a maximum of 4. (Campos, 2012). People find it difficult to see the persons in window on approximately 5th floor onwards. Neither can they see any object like flower vase in balcony on higher floors. This causes visual disconnect leading to isolation of the persons on street from high rise dwellers and vice versa.
2. A person from street can't see a high rise building in totality comfortably, so the person feels dwarfed. Tall buildings are totally out of human scale. A passerby needs to bend to see a tall building which is not comfortable as, In case of tall buildings, human eye is always drawn to top of building. So it is not pedestrian friendly. Skyscrapers often shatter the urban scale by dwarfing nearby buildings, people, and public spaces. (Al-Kodmany, 2018)
3. Living in high-rise results in people losing control over life conditions and safety. (Richard Wener, 2008). People rely more and more on artificial environmental conditions such as light, ventilation, wind and humidity once they are in building. Many of the high rise buildings are not

designed to be climatically comfortable given the very nature of design and limitations. The focus of designers is more on optimization of services. Therefore, occupants have to rely on artificial mechanisms for comfort. Larger the high-rise building, more is the reliance on mechanical comfort. This alienation of occupants from natural conditions, does have negative effect on physical and psychological health, behavior and productivity.

4. More crimes are associated with high-rise buildings. (Tayyab Ahmed, November 2016). The more and more occupants are alienated from natural surroundings, the more are negative psychological effects and more aggressiveness and criminal inclination is found in such occupants. To reduce these effects, proper design of landscapes can help. Uncontrolled growth of trees in landscape actually provide shelter to criminal and anti-social elements. It has also been observed in a case study, that properly designed landscapes typical of a well maintained garden in vicinity of residential areas actually reduce crime. (Mary K Wolfe, 2012)
5. More suicides take place because of high rise structures (Ronald D Clarke, 2013). This is more due to easy availability of source for suicide that can incite a person to commit suicide. This situation might be similar to a situation like that for a tall bridge or a high overhanging cliff. There have been cases of suicide from tall buildings.
6. Residents are scared of height. (Michael Eichner, 2018). A fear exists that they or their loved one may fall from more heights resulting in serious injuries. There is also a fear perception among high rise building dwellers, that anything dropped from higher floor may injure a person on ground.
7. There exists a perception amongst residents that the evacuation time in high-rise is long in case of any mishaps like fire etc. (Sundrani, 2012). So that fear may remain with high rise dwellers.
8. Also exists a perception that high rise may perform badly in an earthquake (Sundrani, 2012), (Gifford, 2007). The persons living on lower floors also carry a perception that, in case of earthquake, the whole building may fall on them.
9. Perception amongst residents that, since large number of people stay in one building, there is possibility that there might be many strangers in building. This thought leads to fear of crime and feeling of lack of social support. (Gifford, 2007). The perception of safety amongst parents is very important as without that perception, parents will not allow their children to play in common areas. In high rise buildings this distance between a parent in his/her apartment and the child playing in open area is too large to have positive perception of safety in parents mind. Reciprocally, a child may feel safe when a parent is observing him/her and this perception of

being supervised in child's mind is also directly related to the extent of physical activities of the child. (ALI SHARGHI, 2014). On the positive side of issue of strangers in the neighbourhood, there are also chances that dwellers may come in contact with large number of people in high-rise building giving more opportunities for them to connect with others and develop a better social rapport. In a recent survey, it has been established that a common code of conduct for all residents like valuing each other's' privacy is necessary for amicable relationship between residents. (Tamir Arviv, 2021)

10. Also there exists perception among residents, that because they touch many common elements like elevator buttons, lobby doors, staircase railing and so on, they are more susceptible to communicable diseases. (Gifford, 2007). People develop a stay-away attitude leading further isolation of people.
11. Interactive open spaces affect attitude and growth of children. (Muhammad Luthfi, 2020). Children are better off in low rise buildings than in high rise buildings as in high rise buildings they may be less supervised resulting in behavioral problems. (Gifford, 2007). Even though no evidence is found in a study conducted in Japan of any relation with mental health problem of children due to staying in high rise building. (Takeo Fujiwara, 2014), for a child to achieve his/her full potential the relationship of child with nature is very important. (Piaget, Inhelder, Kagan, & Weaver, 2000). Mostly smaller families with lesser number of children stay in high rise building due to reduced activity of children. (Danica-Lea Larcombe E. v., 2019).
12. Owing to the absence of outside space alongside the individual apartment in a high-rise buildings, such residential projects are particularly unsuitable for families. (Tayyab Ahmed, November 2016). Large joint families still prefer individual houses. We find large number of nuclear families preferring high rise flats. This does not mean that low density developments or low rise constructions are better. Compared with residents of lower-density neighborhoods, compact-city residents have higher levels of personal relationships satisfaction and perceived physical health, similar levels of leisure satisfaction, but lower levels of emotional response to neighborhood and higher levels of anxiety, provided they have better access to open spaces, public transports, reduced car traffic and pedestrianized areas.. (Mouratidis, 2019). However, considering perceived safety, reduced noise, and better cleanliness in high density living, is significantly positive and the impact of anxiety diminishes, resulting in a significant positive perception of life satisfaction.

13. Findings show that there are fewer friendships in high-rise buildings per capita than those in low-rise dwellings. (Tayyab Ahmed, November 2016). In a survey in Pakistan, it was found that socio-economic status of high rise buildings dwellers to be less than single unit houses. People prefer longer stay in single unit houses than in high rise apartments. (Syeda Zainab Hassan, 2019). The social economic status was inferred from socio-economic satisfaction of residents.
14. High building or dwelling density results in strain. (Tayyab Ahmed, November 2016)
15. Low rates of helping others in high-rise buildings. (Tayyab Ahmed, November 2016)
16. Many apartments discourage pets. Pets are proved to better mental health being (Hayley Christian, 2016). Pet owners do enjoy social dialogue among themselves. This, because pets are discouraged, also hampers mental well being of residents of high rise buildings.
17. High rise buildings in congested city areas with lesser open space between buildings, pose more serious problems to the well-being of its dwellers. (Danica-Lea Larcombe E. v., 2019). View from apartments of green areas and water bodies helps reduce the stress in people. This also explains why apartments with views of gardens or sea or distant objects are more preferred by people.
18. In a study carried out in Perth Australia, it has been observed that the residents of high-rise buildings isolate themselves from nature. (Danica-Lea Larcombe E. v., 2018). This has been concluded from a survey. The dwellers visits to park are fewer than the dwellers in low rise buildings. Ironically, it is surprising to note that the dwellers prefer a view of green spaces from their apartments but venture less into such green spaces. Their visits are further less to natural landscapes such as bush-lands or national parks. The residents of buildings or apartments with less indoor plants or less plants in balconies and common areas like passages and lobbies, showed more isolation from nature. The consequences of limited contact with nature may lead to various health issues such as higher stress levels. People in contact with nature showed better mental health (Huibrie C. Pieters, 2019).
19. In India tall buildings always precede the infrastructure development. (Sudhir Jambhekar, Peter Weingarten, 2008) Because of this mismatch a general perception amongst people is that high rise buildings are a big load on existing infrastructure. There appears to be alienation of general public from high rise building users. This reciprocally, again isolates the high rise residents from local people and cultures. This may be temporary phase till the infrastructure is improved and more high rises come up in vicinity. But initially, the isolation does exist.

20. High-rise apartments are generally built as gated communities, it suffers all the disadvantages of gated communities like isolation from society and even antagonism, perception of fear of crime in minds of residents due to isolation etc. (Sarpong, 2017).
21. A study in Oslo in Norway has put forth worrisome results. There appears to be link between floor level and cardiovascular disease. The higher the floor one stays at, the more is risk of the disease. (Mads K Rohde, 2016). This is more due to poor psychosocial environment on higher floors. Our psychosocial environment is the interaction of the various sources of stress in our lives and how we respond to them, both individually and as communities. The authors of the cited paper have underlined need on further research on this issue and confirmations from studies in other geographies.

Discussion

After studying and listing the issues faced in high rise buildings, let's look at how these issues are going to affect our society that is fast adopting to high rise buildings. Indian people are social and like getting together. Many festivals are celebrated in groups in open areas. People meet in small groups in open areas, on which there are no restrictions. Indian culture is attached to traditional village squares, where many festivals are celebrated. Even in new urban developments, before 1991 economic reforms, architects focused on low rise structures and on the proportion of spaces between buildings to be to human scale. (Sanjay Kumbhare, 2020). Following inflow of foreign capital in real estate industry post economic reforms, the housing industry has witnessed huge rise in demand. The development potential of lands is increased subsequent to many new land legislations. The high rise buildings are results of this change. The new high rise buildings are going to be there given mass urbanization and population increase. We have to preserve our forests and green cover, which also makes less land available for horizontal development. The obvious solution is high rises. The high-rise buildings are fast changing the way its inhabitants behave or interact with each other. The question in India is are these high rise buildings socially sustainable in India? Cultures have always benefitted the human beings. Indian culture, also has been beneficial to Indian people this can be inferred from the fact that there is less addiction to drugs, alcohol and tobacco in India than many other countries. (<https://ourworldindata.org/drug-use>, 2016), so it is necessary that Indian culture is preserved. The high rise buildings are going to impact our culture and consequently our wellbeing in a big way.

Architects, who have done a lot of good work in respect of other buildings with respect to social and psychological issues, have focused less on similar issues in respect of high rise buildings. Architects are

hired by developers in case of such large housing schemes. The developers undertake the project with profit as primary objective. Obviously, the Architect's focus is maximizing the profits of developers as protecting client's interest is architect's duty. Because of this, the social psychological issues are put on backburner. Some interaction is possible amongst residents by properly designed interactive spaces and children play areas. (Soumi Muhuri, 2021). Such places of interactions should be provided by architects and developers at some floor levels besides ground level.

Our administrators, developers, planners and architects need to focus on the flip side of high rise developments. Architects can ensure that high rise buildings can have spaces of positive interaction amongst occupants, even though it may mean modifying the Building Rules or paying more charges by residents towards maintenance, just to mention a few, though this is not the focus of this present paper. The purpose of this paper has been to make all stake holders in such developments aware about the social and psychological disadvantages of high rise residential developments and prompt them to take necessary efforts in social well-being of the community.

Further research

The author has collected all information from sources such as research papers, web papers and books. Even though, some work cited is from Indian researchers, largely dependence of the author is on non-Indian researchers.

1. The issues mentioned above need to be reexamined in Indian context by extensive surveys.
2. Some disadvantages mentioned above are related to perception of inhabitants. Research is also needed if longtime residents still have the same perception. Many of the problems mentioned can be avoided by correcting the perception of people.
3. The effect of high rise buildings on mental well-being of children is also needed to be well established and should be done in Indian context.
4. There will always be further research about this subject. The attempt of author to list all social and psychological issues with high rise building will need to be taken up again and again periodically to include recent discoveries and studies on the subject.
5. Study of necessary character of the interactive spaces in high rise development is necessary and also is necessary how to evolve more shared social spaces with local community without compromising on security and privacy.

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