



Living in Large Urban Developments: A Critical Understanding of the Housing Experience

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Abstract: *This article critically reviews international literature on the social aspects of vertical living. It identifies three research approaches – the built environment effect, the differentiated built environment effect, and the human-environment interrelation – and two focal social orientations of research – suitability and experience – as well as four spatial orientations – space, design, verticality and volume, and technology. The article emphasises the need to extend the scope of future research beyond the building to the residential complex, clusters of complexes, and the entire city in order to better understand relations between volume and experience. It also calls for a more complex investigation of the vertical dwelling experience that would include residential aspirations, new neighbourly roles, and identities.*

Keywords: residential environments and people; residential buildings and architectural design; urban policy and planning; metropolitan housing and urban policy; comparative housing policy



Introduction

Large urban developments (LUDs) represent a dramatic recent transition (or recourse) in the urban environment (Eizenberg 2019; Harris 2015; Nethercote 2018). Part of this transition is formed by contemporary residential LUDs, which differ from their predecessors – high-rise state-funded public housing. Contemporary residential LUDs mostly house the better-off population, and they are extensive in size, height, volume, and technological innovations (Drozd, Appert and Harris 2018; Harris 2015; Nethercote 2018; Rosen and Charney 2018; White and Serin 2021).

The emerging vertical housing environment is not a new phenomenon. While high-rise buildings began appearing in modern cities as early as the beginning of the 20th century (Hall 2014), it was only after the Second World War (mainly in Europe and the United States) that they became the solution for urgently needed housing (Al-Kodmany 2018; Bolt 2018; Hall 2002; Musterd, Van Kempen and Rowlands 2009). Up until the mid-1970s, these large housing estates (in Europe) and high-rise public housing (in the US) were widely embraced in the Western world. However, extensive criticism of the harmful psychological and social effects of these housing developments soon followed, leading to a large-scale and lengthy process of demolitions (Hall 2014). While housing estates and projects were largely abandoned, residential LUDs had regained popularity by the late 1990s and early 2000s. However, their resurgence was driven by neoliberal economic mechanisms and policies, attempts to address housing demand, environmental concerns, certain lifestyle demands, and the interests of private developers (Graham 2015; Modi 2014; Nethercote and Horne 2016). Accordingly, current residential LUDs are mostly inhabited by middle- and upper-middle-class populations (Karsten 2022) and they come with large shared spaces (e.g. open green spaces, lobbies, and parking lots) that require complex infrastructure systems and advanced technological means to optimize the building operations systems (e.g. security and monitoring systems, management software) (Eizenberg, Sasson and Shilon 2019; Mualam 2018). These large-scale systems are usually used in combination with social media to manage, maintain, and control, both structurally and socially, this kind of intricate housing environment (Garfunkel 2017; Gershon-Coneal, Eizenberg and Jabareen 2024; Shilon and Eizenberg 2021). Graham and Hewitt (2013) assert that contemporary residential LUDs represent a different corporeal existence in the city, creating a specific social and political landscape. These differences, together with the overwhelming pace of their development everywhere, demand a comprehensive and critical review of the residential experience of LUDs and the urban sociospatial relations and new forms of sociability they produce. Consequently, a growing body of knowledge in the past two decades has sought to investigate and conceptualise these issues. Nevertheless, an organised and comprehensive framework that enables an international overview is lacking.

Gifford's (2007) review of empirical studies on high-rise residential environments establishes a methodological framework for achieving consensus on crucial issues and enhances the validation of research in this field. We update and revisit Gifford's review by categorising this body of knowledge according to the different approaches and social and spatial orientations that characterise it, thereby uncovering new ways in which to understand this body of knowledge, its past, and its progression. We suggest that the literature on the social aspects of residential LUDs written in the past two decades should be understood as an evolving (rather than fragmented) body of knowledge and as continuous and developing, whereby we can highlight changes in this body of knowledge, capture its scope, and identify what is missing and what directions it is moving in.



This paper thematically reviews the body of knowledge on the social aspects of current residential LUDs according to its 1) research approaches, 2) social orientation, and 3) and spatial orientation. With this review, we hope to highlight possible directions for future research.

Research approaches to studying sociospatial relations in residential LUDs

Residential LUDs have reshaped urban sociospatial relations, creating new forms of sociability. This section describes the different theoretical approaches that studies employ to explore the sociospatial relations that characterise and are produced in residential LUDs. Three main approaches were identified: *the built environment effect* approach, *the differentiated built environment effect* approach, and *the human-environment interrelation* approach. Although it is possible to identify a certain chronological order in their development, all three approaches are used in contemporary research on vertical dwelling experience.

The built environment effect approach explores the sociospatial relations between dwellers and the built form of vertical and high-rise housing through a positivist lens. Studies conducted in this approach seek to identify the influence of the built form on inhabitants. As such, dwellers are perceived as subjects, influenced by space and its physical attributes. These studies suggest a direct effect of the physical form on its inhabitants, which determines different aspects of their lives. For example, the physical features of the built environment, such as car parking lots, and balconies, can have negative effects on the health of residents and especially children (Andrews et al. 2019; Evans et al. 2003; Huang 2006). Andrews et al.'s (2019) research conducted in Melbourne indicates that these physical features can render young children susceptible to injury. Furthermore, research indicates a correlation between the floor level and the extent of adverse social and psychosocial effects (Ginsberg and Churchman 1985; Kearns et al. 2012). Accordingly, studies suggest that children who live on the higher floors of a building tend to stay indoors more owing to safety concerns and the difficulty of providing remote supervision (Whitzman and Mizachi 2012; Sitiayu, Khadijah and Zurinah 2017). Studies have also examined the physical conditions of the vertical environment, such as proximity, density, privacy, noise, and smell, in relation to social implications (Andrews et al. 2019; Du et al. 2017; Ng 2017). For example, studies conducted in Australia and Taiwan found that the proximity of residential units within an apartment building] is associated with increased social isolation and strained neighbourly relationships (Andrews et al. 2019; Huang 2006).

The differentiated built environment effect approach also incorporates nonphysical factors that influence and shape the residential experience. This approach maintains that social factors are interlocked with physical factors, such as height, the number of floors, and layout, and sometimes suppress their influence on residents. Some researchers even argue that physical factors should be studied separately from social aspects. Examined from this perspective, Appold (2011:150) suggests that the social experience in residential LUDs is 'mainly determined by social, not physical factors' – thus, 'physical environments can accommodate, but not create, community'. Therefore, although still primarily positivistic, the differentiated built environment effect approach introduces various social factors that, with or without additional physical factors, determine the social aspects of vertical living. Various social factors include life stage (Appold and Yuen 2007; Raynor 2018), social class (Broyer 2002; Williamson 1981), tenure length (Chile et al. 2014), gender (Fincher 2004, 2007; Rujibhong, Upala and



Edelenbos 2016), and cultural context (Appold 2011; Gu 2020; Muhuri and Basu 2017), which may intersect with physical characteristics. For example, Rujibhong et al.'s (2016) study on vertical housing in Bangkok examines the connection between gender differences and the sense of community among high-rise residents, indicating that this connection is stronger among women.

The third approach to studying the social aspects of vertical living challenges the positivist tendency that characterises the former two. Following the call to advance more topological research over topographical research of verticality in general (Harris 2015), studies of the social aspects of vertical living are increasingly adopting a *human-environment interrelation* approach to research. Understanding the relations between the social and the physical dialectically, this approach positions dwellers not merely as affected by the physical structure or by demographic characteristics but as active and evolving participants in a complex relation of habituation. Dwellers interact with the physical space and with the people in it; they shape their environment and are shaped by it in an ongoing process. Studies within this approach are more qualitative in nature, seeking to nuancedly grasp a wide array of practices, perceptions, and interactions between human and nonhuman actors.

Studies demonstrate, for example, how ethno-religious social practices transform the physical space into a unique social space that better caters to dwellers' needs (Ashery 2019; Ghosh 2014; Jabareen and Eizenberg 2021; Jabareen et al. 2019; Nguyen et al. 2020). Ghosh's (2014), study on the dwelling experience of Bangladeshi immigrants living in vertical neighbourhoods in Toronto finds that vertical public spaces are used to serve communities with different social, cultural, religious, and economic needs. Through a bottom-up process, these shared spaces are transformed into informal daycare, language classes, mini playgrounds, daily prayers, and grocery stores. Consequently, the building becomes a safe and familiar place for the community, fostering social connections, in contrast with the unfamiliar city (Ghosh 2014).

Jacobs (2006) understands vertical housing as a 'living entity' that is 'always in a state of becoming' (Shilon and Eizenberg 2021: 125). These studies suggest that the design of residential LUDs is entangled with different conflicts around proximity and privacy – for example, when 'being a good parent and a good neighbour' clash (Kerr et al. 2018: 3). These conflicts shape intrafamilial (Nethercote and Horne 2016) and neighbourly (Arviv and Eizenberg 2021; Gershon-Coneal et al. 2024; Kerr et al. 2018) practices. Examining proximity and privacy among women dwelling in LUDs in Australia, Reid et al. (2017) challenge the prevailing notion of high-rise design as contributing to the social isolation of residents (e.g., Gifford 2007; Huang 2006). Their feminist perspective explains social distance in relation to gender preferences; women prefer to avoid close and intense neighbourly relations as a response to the intense physical proximity that characterises these environments, and this changes their expectations and needs around neighbourly relations (Reid et al. 2017).

Following criticism of the dominance of the horizontal perspective and methods in geographical research and the 'vertical blind spot' that results from this (Harris 2015: 601; Graham and Hewitt 2013), the *interrelation approach* explores the bottom-up daily vertical practices of city dwellers, focusing on questions about feelings, experiences, and the daily use of the vertical environment in residents' everyday lives and on the volume of this housing form as a significant dimension (Baxter 2017; Graham 2015; Harker 2014; Harris 2015). For example, Baxter's (2017) study in London demonstrates how residents' everyday experiences involve domestic vertical practices (such as using stairways and lifts, looking out from a high-rise apartment). He



contends that verticality should be viewed as a ‘product of everyday activity’ (p.338) and as a practice that cannot exist without people practising it because it functions on two parallel levels: as the outcome of people’s actions and in the reconstruction of peoples’ daily lives.

The three approaches to studying the social aspects of high-rise and vertical living also entail methodological differences. We generally distinguish between two methodological orientations: a molecular approach that disassembles the social aspects of living in high-rise and vertical housing environments into their constituent parts, and a molar approach that captures different elements together as a holistic experience.

Studies that use a disassembling methodology present a meticulous account of the various characteristics of high-rises (Du et al. 2017; Forrest et al. 2002; Rujibhong, Upala and Edelenbos 2016). These studies disassemble the housing environment into different fragments, analysing the influence of each characteristic on various social phenomena. Using quantitative tools, the physical characteristics of the built form (i.e., height, floor level, infrastructure conditions, location, and architectural design) and demographic characteristics of the population (i.e., socioeconomic class, life stage, ethnicity, and density) are associated with different aspects of living: social isolation, anonymity, etc.

The molar approach uses a wider lens that takes into account the various social, cultural, economic, and political roles and contexts that are at play. These studies tend to employ qualitative research tools, such as interviews and observations (Ghosh 2014; Kerr et al. 2018; Nethercote and Horne 2016), or a mixed-methods research design (Ashery 2019; March and Lehrer 2022 – survey, interviews, GIS mapping; planning data analysis). By doing so, they address physical attributes that have previously been researched (e.g., height, floor number, density) as part of an assemblage of the different spaces and dimensions that compose residential LUDs.

Social orientations – suitability, satisfaction, and experience

The body of knowledge on social aspects of vertical housing may also be considered according to its social orientation, namely suitability and experience.¹

Studies focused on suitability evaluate the advantages and disadvantages of high-rise living and the compatibility of this housing form with different populations. They explore the social, economic, physical, mental, and emotional influences that high-rises as a form of living have on their inhabitants, often examining them in reference to the gender and age characteristics of inhabitants (e.g., women, elderly), their life stages (e.g., families, empty nesters), or socioeconomic status (Andrews et al. 2019; Broyer 2002; Gifford 2007; Huang 2006; Kalantari and Shepley 2020; Temelová and Slezáková 2014). Often, these studies point out a lack of suitability, identifying negative social outcomes for inhabitants, such as social withdrawal, isolation, behavioural problems, loss of privacy, and crime (Andrews et al. 2019; Gifford 2007). When high-rises are examined in reference to young families, many studies conclude that they are not suitable for raising young children (Gifford 2007; Huang 2006; Karsten 2022).

¹ For this paper's purpose, we address each subject area separately, although some studies address them together.



Other studies on suitability have identified a lack of neighbourly relations and low levels of community involvement in a high-rise building (Andrews et al. 2019; Chatterjee 2018; Kalantari and Shepley 2020). Nonetheless, some studies seek to distinguish between socioeconomic classes, suggesting that different populations are influenced in different ways by this form of housing (Broyer 2002; Hall 2014).

Suitability is often evaluated through residential satisfaction (Broyer 2002; Ng 2017; Rujibhong et al. 2016; Temelová and Slezáková 2014). The notion of residential satisfaction (or dissatisfaction) has been extensively studied in the housing literature (Appold and Yuen 2007; Dekker et al. 2011; Eizenberg, Jabareen and Zilberman 2023; Yuen 2005). However, when residential satisfaction is examined in vertical housing environments, new intervening variables such as floor level, a building's amenities, and the level of maintenance are introduced (Du et al. 2017; Ng 2017).

Karsten (2015) examined the vertical dwelling experience of families in Hong Kong by evaluating residents' satisfaction at different scale (building, neighbourhood, and city) and different physical and social attributes. Addressing housing type (in comparison to single-family housing), location (distance from transportation and workplace), floor level, building and neighbourhood amenities, and social connections, she highlighted the importance of scale level in investigating the LUD environment. She found that while living in a high-rise building is mostly considered positive among families, participants report a lack of satisfaction with the vertical neighbourhood.

The second orientation is to study the experience of vertical living and how people experience, interpret, and engage with residential LUDs. Andereck et al. (2006) suggest that studying this experience requires a different approach to the field of investigation. Shifting from variables that correlate with or predict better suitability or higher satisfaction, the question of experience is an open-ended inquiry into how people experience and understand their residential environment and how this environment, in turn, reshapes their practices and perceptions. Thus, Harris's (2015) calls to explore the everyday expressions and experiences of urban verticality propelled and responded to a surge in investigations on the dwelling experience of vertical living. This literature focuses on everyday spaces, daily routines, encounters, the social practices of residents, their closed engagement with the multiple physical and social features of vertical housing environments, and the sociospatial relations within these environments.

Investigating residents' daily sociospatial practices reveals 'new social conventions and regulations' that are manifested through the different mechanisms by which social relations and communities are formed (Shilon and Eizenberg 2021: 138). How the new (vertical) dwelling experience is conceptualised is demonstrated in the distinct nature of the practices of the making and unmaking of home (Baker 2013; Baxter 2017; Dorignon and Nethercote 2021), parental and interfamilial practices (Kerr et al. 2018, 2021; Nethercote and Horne 2016), neighbouring dynamics and practices (Arviv and Eizenberg 2021; Mechlenborg 2022; Nguyen et al. 2020; Reid et al. 2017), and organisational and management practices in which structural and social technologies are integrated (Shilon and Eizenberg 2021).

Focusing on parental and interfamilial practices in residential LUDs in Melbourne, Nethercote and Horne (2016) suggest that issues of proximity and privacy alter not only social relations with neighbours but also practices within the family. The authors demonstrate how new spatial practices (e.g., time zoning) are adopted by families to mediate their needs for privacy and



separation within the household. At the scale of the apartment and the building, practices emerge along with a new spatial perception that extends beyond the domestic private apartment into publicly shared spaces, which are used to get a break from the confined domestic space.

Spatial orientation: space, design, volume, and technology

The study of the social aspects of vertical living can be organised to focus on four spatial components: *space*, *design*, *verticality* and *volume*, and *technology*.

The *physical* components of vertical living include spatial attributes such as height, the number of floors, density, and location and they are often utilised to evaluate dwellers' perceptions of high-rise living. Broyer (2002) assessed the satisfaction of middle-class women in residential LUDs in Israel in relation to the different physical attributes of their buildings and housing environment (floor level, density, view, etc.). She found associations between the building's density and having opportunities to form social interactions among residents, and between the height of a building and the quality of the views and air, the amount of street noise, and the feeling of security experienced.

Different *design aspects* of LUDs, such as the architectural features of the buildings/complexes and the layout of the open spaces, are an additional element through which researchers explore vertical housing environment as a more integrated (rather than fragmented) space. For example, Eizenberg et al. (2019) demonstrated how different scale, design, and layout of open spaces in residential LUDs in two cities in Israel are used and experienced differently pertaining mainly to sense of community and sense of responsibility towards space. At the apartment and building scale, Andrews et al. (2019) found an association between the design features of residential LUDs in Melbourne and parents' feelings of insecurity and danger regarding to raising children. They suggest that certain indoor design components are unsuitable for family life with young children (limited space to do laundry, and windows and balconies that pose a danger).

A recent discussion on vertical urbanism (Harker 2014; Harris 2015) introduced and incorporated *volume and verticality* as significant factors for understanding human-environment relations. Through the notion of verticality, studies examine the capacity of space to adjust and adapt to various social phenomena or even populations and vice versa. For example, Ashery (2019) identified two sociospatial mechanisms of segregation and integration that create a new inner vertical order among minority groups in London. The 'vertical ethnoreligious segregation' process demonstrates how different floors of the same building accommodate different minority groups, allowing each group to create its own distinct semi-public community spaces. The 'vertical micro integration' process demonstrates how different minorities form intergroup relations. This potential for intergroup relationships is limited in other urban areas owing to feelings of unfamiliarity, linguistic differences, and cultural barriers, but it was found also in another study that focused on the building and complex scale levels (Arviv and Eizenberg 2021).

Finally, with the growing spread of *technologies* such as surveillance cameras, smart entrances, and building social media groups, a few recent studies have incorporated technology as a building block for understanding the social aspects of residential LUDs (Garfunkel 2017; Arviv and Eizenberg 2021; Shilon and Eizenberg 2021). For example, Shilon and Eizenberg (2021) have demonstrated the vital role of communication technologies in shaping residents'



experience and management of the dwelling environment, where ‘the sound of an incoming WhatsApp message [for instance...] affectively connects a group of people’ (p. 133).

Discussion

Conceptual analysis, framing, and categorising the existing literature on the residential experience of residential LUDs is central to understanding the state of the art and complexity of current research as well as directing future research. Clapham (2018: 176) argues that ‘clarity and explicitness of paradigms and concepts is a basic requirement of research’, and this is also necessary for the further development of housing research and to support housing policy. Furthermore, in order for housing research to support planning policy, research should be navigable and organised while simultaneously multifaceted and complex (Hatuka and Bar 2017). The classification offered in this paper does precisely that for the segment of housing research that engages with the social aspects of vertical living. It demarcates three research approaches and related methodology, two social orientations, and four spatial orientations (See Table 1). An integrated understanding of this body of knowledge that is also internationally relevant is necessary for identifying possible research trajectories. Whereas classifications in housing studies are available, they tend to capture the entire field of housing (e.g., Hatuka and Bar 2017) and are thus too general, instead of being topic- and/or form-specific. Our classification juxtaposes the topic of the social aspects of a dwelling with the form of residential LUDs, providing a way of indexing research on a massively growing form of housing and deriving directions for its development that could better the lives of its many existing and future residents.

Table 1: Thematic classification of research on vertical living

Approaches to study social aspects of vertical living	<i>Approach Description</i>	<i>Methods</i>	<i>Social orientations</i>	<i>Spatial orientation</i>
<i>The built environment effect</i>	A one-directional focus on the effect of physical attributes on the social aspects of vertical living	Positivist molecular quantitative tools	Suitability	<ul style="list-style-type: none"> • Space • Verticality
<i>Differentiated built environment effect</i>	Multiple demographic variables (as intervening factors) explain the effect of physical attributes on social aspect of vertical living	Molecular: quantitative \ mixed methods	Suitability-residential satisfaction	<ul style="list-style-type: none"> • Space, • Design, • Verticality
<i>Human-environment interrelation</i>	A holistic and dialectical approach to understanding of human-environment relations to explain the sociospatial experience of vertical living.	Molar qualitative \ mixed methods	Experience	<ul style="list-style-type: none"> • Space, • Design, • Verticality and volume, • Technology

Source: Authors.



We find that research focused on suitability generates knowledge on the quality and quantity of various social aspects, but it is often limited in how it grasps the complexity of the dwelling experience. Alternatively, research focused on experience provides a more nuanced understanding but runs the risk of being too localised and therefore less relevant in offering practical recommendations for urban planners, architects, and developers. Integrating these two focal points in future research would provide policy better guidance on how or whether various social aspects of a dwelling are unsuitable for certain groups. For example, high floors are less suitable for young children, therefore apartments for families with young children should be allocated to lower floors, but an open green space at the centre of a housing complex will help overcome some of the insecurities associated with raising children in high-rise, high-density environments.

We suggest that the components with a spatial focus recently introduced into research – verticality, volume, and technology – constitute an imperative addition to this body of knowledge for formulating housing policy in various geographic contexts. Little attention has been given to volume and technology, which are physical features that have a tremendous impact on the socio-psychological aspects of the residential experience. Working with the proposed classification will ensure a more complex and multifaceted understanding of the residential experience and will help raise and answer important questions. For example, what is the maximum size of a complex (the volume) that coincides with a conducive use of technology for ongoing management? What can we learn from research in Singapore (high volume) for policy in Melbourne (low to medium volume)? Is technology as part of the residential experience similar in different places?

Moreover, our classification reveals that most of the literature is focused on the scale of the building, while limited attention is given to the floor, the complex, and the neighbourhood scales. Therefore, the social dimensions of vertical living should be examined on multiple scale levels, mainly larger than the building scale, in order to better comprehend the interplay of volume and experience. Furthermore, the urban context and how residential LUDs are integrated into it are also unexplored venues. Explicit consideration of scale, social focus, and physical focus of research is crucial also for the international comparability of research findings. Exploring the social aspects of residential LUDs should prompt new inquiries into experiences. The economic aspects of residential LUDs appear in the literature as independent variables such as social class or ownership that influence social aspects. Other economic aspects such as housing career, maintenance costs, etc., have been examined separately from the social aspects of the dwelling experience. Other research gaps concern housing aspirations, and the residential identities that emerge in residential LUDs. By reframing research on the social aspects of residential LUDs, it is expected that future studies will be able to contextualise their analysis within this framework, identify knowledge gaps more effectively, and ultimately contribute to the advancement of other areas of knowledge within the housing field.

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