Property Stigma Factor in Residential Overhang: Real Estate Players' Perspectives

Noor Farhana Akrisha Ishak[1], *Zarita Ahmad@Baharum[2] and Ting Kien Hwa[3]

Abstract: The current overhang problem in residential properties and serviced apartments originates from their excessive supply in 2016. There are many factors that contribute to property overhang. One of the factors is property stigma. Property stigma is a negative element that influences homebuyers' decisions. This study explored the perspectives of real estate players towards property stigma in the residential overhang. A qualitative method was used on seven participants participating in this study, including registered valuers, probationary valuers and probationary estate agents with more than seven years of experience in the property industry. Interviews were conducted and digitally audio recorded. The data was analysed using a six-step thematic analysis. A total of three main themes emerged from the data, which were (1) physical stigma: former land use, building or natural disaster area, (2) non-physical stigma: neighbourhood, environmental pollution and distance and (3) psychological stigma: supernatural or paranormal and ethnic belief. This study emphasises the existence of property stigma in residential overhang. This is a crucial subject matter for policymakers and property professionals, as improving property market transactions in Malaysia is critical to eliminating residential overhang.

Keywords: Property stigma, Residential overhang, Thematic analysis, Malaysian housing market, Property market in Malaysia

INTRODUCTION

The property overhang is a result of the property market boom, boosted by Malaysia's strong economic growth. Unfortunately, average salary increases and household income are not in par with the rise in property prices, particularly housing. In this respect, there has been a mismatch between the value of properties built (supply) and people's affordability (demand), causing the housing market to face a glut (Bernama, 2023). The property market, particularly the overhang in residential and serviced apartments, greatly impacts the market performance. According to NAPIC (National Property Information Centre, 2024), property market activity continued to record growth, with more than 399,008 transactions worth MYR196.83 billion

[1]Postgraduate Studies, Faculty of Built Environment, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, MALAYSIA
[2]College of Built Environment, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, MALAYSIA
[3]Department of Real Estate, Faculty of Built Environment, Tunku Abdul Rahman University of Management and Technology, Jalan Genting Klang, 53300 Kuala Lumpur, MALAYSIA
*Corresponding author: zarit928@uitm.edu.my

in 2023. It suggests an increase of 2.5% in volume and 9.9% in value compared to the previous year. The residential sub-sector led the overall property market activity, with a 62.8% contribution in volume. There were 250,586 transactions worth MYR100,928.77 recorded. This explains the similarity in transaction volume and value patterns, indicating the significance of the residential market performance to the overall property sector. However, there remains a vast amount of unsold housing stock.

Price and housing loans (Shien and Kasim, 2022), location (Birruntha, 2021) and social stigma (Adzhar et al., 2021) are among the factors that cause overhang. Kathy (2022) states that property overhang is mostly due to a lack of research, resulting in a poor understanding of supply and demand and a mismatch in the property price range that purchasers are looking for in specific places. For that reason, Kathy (2022) proposes that local authorities hold on to similar developments near high overhang units for a time to allow the market to absorb the units or to re-evaluate the development composition before approving it. The government and developers need to seriously consider how to resolve the rising number of unsold completed units, particularly serviced apartments, which balloon annually (Cheng, 2020).

Past research focuses on the financial factor, house prices and affordability factors, to name a few. However, one of the factors of property overhang, such as property stigma, has limited research. Stigma is an attribute that conveys devalued stereotypes (Clair, 2018). Property stigma is a negative element that influences homebuyers' decisions. Therefore, this study explored the perspectives of real estate players towards property stigma in residential overhangs in Malaysia.

LITERATURE REVIEW

Factors Influencing Homebuyers' Decisions

Homebuyers' purchase preferences and decisions in Malaysia are influenced by a complex combination of financial, locational, cultural and demographic factors. At the foundation of these decisions are financial considerations, where affordability, access to financing and interest rates play a critical role in determining the purchasing power of households. According to Tan, Wong and Lim (2020), housing loan availability and cost dictate buyers' ability to enter the market. Other than financial capacity, location is a key determinant. Urban properties or properties near economic hubs are especially desirable due to their proximity to workplaces, amenities and transportation networks, offering significant convenience to buyers (Hussein, Salleh and Razak, 2021). However, the location alone is insufficient without a supportive neighbourhood. Buyers often prioritise safe, well-maintained neighbourhoods with strong

community ties and access to local facilities, such as parks and retail options, which enhance their overall living experience (Salleh, Yusof and Johar, 2019). This also highlights the issue of stigmatised properties, where properties associated with negative events (e.g., tragedies or crimes) may be avoided by buyers despite being in prime locations (Wong, Tan and Chong, 2021).

The availability and quality of infrastructure also significantly influence decisions. Properties with access to reliable transportation, educational institutions, healthcare facilities and recreational spaces are more attractive due to their potential to improve quality of life (Ahmad, Zainudin and Ibrahim, 2022). Additionally, the role of developers cannot be overstated. Buyers often assess a developer's reputation, track record and customer service, as these factors foster trust and ensure confidence in the investment (Mohd, Ismail and Zain, 2023). Cultural and personal beliefs also influence preferences. Superstitions and practices like feng shui affect choices in property layout, orientation and even floor numbers (Chong, Tan and Lim, 2020). This becomes particularly relevant when discussing stigmatised properties, as cultural beliefs may amplify aversions to properties associated with inauspicious events or "bad energy" (Chong, Tan and Lim, 2020). Meanwhile, the internal features of a dwelling, including its size, design and build quality, must cater to buyers' functional and aesthetic needs, making these characteristics essential in decision-making (Lau, Cheah and Chia, 2021). Lastly, demographic factors such as age, family size and lifestyle significantly shape housing preferences. To illustrate, younger buyers may prioritise affordability and convenience, whereas larger families often look for spacious homes in family-friendly environments (Wong, Tan and Chong, 2021).

Together, these interwoven factors highlight the intricate nature of housing purchase decisions in Malaysia. Understanding cultural beliefs and addressing concerns through appropriate pricing, design changes or marketing strategies may mitigate buyer hesitation, creating opportunities for these properties to be reintegrated into the market (Chong, Tan and Lim, 2020).

Concept of Stigma

Goffman (1963) defines stigma as a discrediting attribute or mark that reduces an individual from a whole and usual person to a tainted, discounted one. Even so, stigma, regardless of the type, can also cause disgust and emotional reactions in observers (Devers and Mishina, 2019; Kurzban and Leary, 2001). Thus, if stigma is a recognised quality with negative meanings, then stigmatisation is the social process of making negative meanings stick to persons, places, practices or things. It is easily influenced since stigmatisation is meaningful and interpretive (Horgan, 2020). Pescosolido and Martin (2015) support that while stigma is the mark, the condition or status that is subject to devaluation, stigmatisation is the social process by which the mark affects

the lives of all those touched by it. They list the most commonly used terms in contemporary stigma research (as shown in Table 1). The list is not exhaustive or in agreement with any attempt to bring together or adjudicate the approach of any one discipline, community or study. Rather, to better understand the stigma research that has been studied.

Table 1. Basic concepts of stigma

Term	Concepts
Stigma	A deeply discrediting attribute, "mark of shame," "mark of oppression" and devalued social identity.
Stigmatisation	A social process embedded in social relationships that devalues through conferring labels and stereotyping.
Labels	Officially sanctioned terms applied to conditions, individuals, groups, places organisations, institutions or other social entities.
Stereotypes	Negative beliefs and attitudes are assigned to labeled social entities.
Prejudice	Endorsement of negative beliefs and attitudes in stereotypes.
Discrimination	Behaviours that act to endorse and reinforce stereotypes and disadvantage those labeled.

*Source*: Pescosolido and Martin (2015)

This concept of stigma applies to properties, where labels such as "unsellable" or "undesirable" may be assigned to housing units due to their physical condition, location or past events that led to stigmatisation.

Property-related Stigma

According to the Canadian sociologist, Goffman (1963), stigma describes the situation of the individual who is disqualified from full social acceptance. He identified three types of stigmas: (1) abominations of the body (e.g., physical deformities), (2) blemishes of individual character (e.g., weak will, dishonesty, arising from mental illness, addiction and imprisonment) and (3) tribal stigma (e.g., race, religion, nationality). While the concept of stigma by Goffman (1963) is widely used, stigma is not limited to personal attributes but can also be attached to places.

Place-based stigma is usually referred to by Wacquant (1993). Wacquant (1993) states that territorial stigma is a negative public image of specific places. Unlike individual stigma, which is specific to individuals, territorial stigma is generalised to whole neighbourhoods. Thus, with territorial stigma, social discredit is firmly anchored in place (Wacquant, Slater and Pereira, 2014). However, Horgan (2020) argues that housing stigma is different from both

Goffman's individual stigma and Wacquant's territorial stigma, although both are combined. He specified that housing stigma is the denigration of particular housing units due to their inhabitants, form, tenure and/or location. Thus, housing stigma is neither specific to the territorial stigma nor the individual stigma but rather combines certain aspects of both. Horgan (2020) argues further that housing stigma will vary in intensity from place to place under the different combinations of individual and territorial stigma occurring in each context, as illustrated in Figure 1. Hence, there is a similarity to all definitions of stigma, whether for individuals, places or housing. The attribution of some quality or characteristic with a negative meaning to people causes the loss of social status. This is the basis of stigma (Ejiogu and Denedo, 2021).
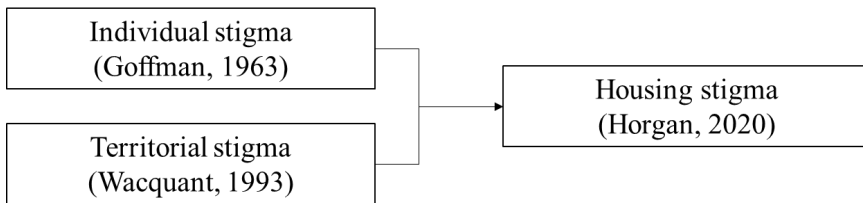
Figure 1. Housing stigma

Property stigma in relation to property overhang refers to the unfavourable perceptions associated with unsold or undesirable housing units. However, suppose a property is affordable and located in a seemingly desirable area. In that case, the stigma attached to it, whether due to past events, its design or the reputation of the surrounding neighbourhood, can significantly deter potential buyers.

METHODOLOGY

The objective of the study can be achieved by using the qualitative design. The design was selected because this approach provides deeper insights into real-world problems (Mose and Korstjens, 2017) and researchers can gather participants' experiences, perceptions and behaviour (Tenny, Brannan, and Brannan, 2022).

Participants and Research Setting

The purposive sampling method was employed to gather participants' insights. This sampling method was used to select participants who are most likely to yield appropriate and useful information (Kelly, 2010) to increase the depth of understanding (Palinkas et al., 2015). This study set predetermined criteria aligned with the research objective to select information-rich participants,

as detailed in Table 2. Nonetheless, no similar standards of sample size exist in a qualitative design (Malterud, Siersma and Guassora, 2015). A small sample size is considered manageable if more participants do not add any information.

Data saturation refers to the point in data collection when no additional issues or insights are identified and data begin to repeat so that further data collection is redundant, signifying that an adequate sample size is reached (Hennink, Kaiser and Marconi, 2017). The concept of saturation mentioned by Hennink, Kaiser and Marconi (2017) is widely called "data saturation" or "thematic saturation". This broader application of saturation focuses more on assessing sample size (Hennik and Kaiser, 2022).

Table 2. Inclusion and exclusion criteria

Sample	Inclusion Criteria	Exclusion Criteria
Real estate player	1. Registered valuer. 2. Probationary estate agent. 3. Probationary valuer. 4. Experienced in the real estate industry for more than five years. 5. Able to speak and understand Malay and English.	Real estate player who was never involved in residential property matters.

Overall, this study focused on real estate players who practice in urban areas because residential overhang usually occurs in urban areas. In 2023, Johor had the highest residential overhang (15,938 units), followed by Kuala Lumpur (8,341 units) and Selangor (5,470) (NAPIC, 2023).

Data Collection

The researcher conducted semi-structured face-to-face and online interviews with a total of seven participants: one representative registered valuer, four probationary valuers and two probationary estate agents. Each interview took around 30 to 40 minutes. Supported by Cohen, Manion and Morrison (2000), interviews can reach a continuum depending on the degree of openness and structure and their purpose. The researcher guided participants during the interview to keep the interview focused on the desired line of action (Jamshed, 2014). The interview was set in English and Malay versions to suit the participants' communication preferences.

Data Analysis

The interviews were digitally audio-recorded and transcribed verbatim. The ATLAS.ti 23 software was used in the analysis process. Thematic analysis is a method for analysing qualitative data that involves searching for recurring ideas in a data set (Riger and Sigurvinsdottir, 2016). In interview data, present themes can be derived (Pistrang and Barker, 2013). Thematic analysis is a well-known method that involves identifying, analysing and interpreting patterns, via themes, within qualitative data (Clarke and Braun, 2017). The quotes and themes developed will be translated into English using forward translation.

To test validity through the convergence of information from different sources, the current study employed a triangulation method (Carter et al., 2019). There are several types of triangulations, but this study adopted data triangulation. Data triangulation uses various data sources, including different times for data collection, different places from which to collect the data and different people who could be involved in this study (Wilson, 2014). The data sources of this study were literature review, observation and interviews. The findings from data triangulation were corroborated and any weaknesses in the data were compensated for by the strengths of other data (Hales, 2010).

FINDINGS AND DISCUSSION

A total of seven participants contributed to the findings of this study. One of the participants was a registered valuer, four were probationary valuers and two were probationary estate agents. The findings of this study revealed three main themes: (1) physical stigma, (2) non-physical stigma and (3) psychological stigma. The main themes and sub-themes that emerged are summarised in Table 3.

Table 3. The main theme and sub-themes of this study

Main Theme	Sub-theme
Physical stigma	Former land use Building Natural disaster area
Non-physical stigma	Neighbourhood Environmental pollution Distance
Psychological stigma	Supernatural or paranormal Ethnic belief

Main Theme 1: Physical Stigma

Physical stigma is a property stigma that represents a property with a tangible physical asset defect (*New Straits Times*, 2012), either on the foundation or the structure of the property. This theme had three sub-themes: (1) former land use, (2) building and (3) natural hazards.

Former land use

Former land use is a change in land characteristics managed by humans. Participants 2, 4 and 6 illustrated this sub-theme in Table 4.

Table 4. Former land use

Participant	Citations
2	Can be a stigma (…) the history of that area if people know they know, if people don't know they don't know.
4	Ex-graveyard land, (…) Chinese more coward to ghost (feng shui; yin yang) will be considered as a stigma. But as Islam – a concern if disturbing to kids (people around that more concerned). If outsiders, they don't know and buy it.
6	Soil type either peat soil, reclaimed land, mining land (…) can cause subsidence land that causes crack of the building.

This finding that the influence of former land use on property values and perceptions was shaped by environmental, structural and socioeconomic factors corroborated with prior studies. Contaminated land or land previously associated with undesirable uses is shown to negatively affect property values, as evidenced by Turečková et al. (2022). This is compounded by concerns over soil quality and land stability, which Vanlalnunpuii and AparnaAshKanojia (2023) identified as critical determinants of perceived risk, particularly for properties on unstable soils such as peat or reclaimed land. In post-disaster contexts, Breglia (2022) highlighted the significance of land vulnerability perception in housing transactions, where properties on safer, undamaged land command higher prices, while those on perceived vulnerable sites face a decline in value.

In rapidly urbanising regions, managing former land uses through rural land consolidation and redevelopment projects further influences community perceptions. Peng et al. (2020) noted that in China, residents' perceptions of landscape changes are highly dependent on the quality of redevelopment efforts. High-quality projects that improve the land's utility and align with residents' place identity foster positive perceptions, while poorly executed projects risk reinforcing negative views. Taken together, these findings underscore the critical role of addressing environmental risks, structural

concerns and community engagement when managing former land use to mitigate its adverse impacts on property values and promote positive urban transformations.

Building

All of the participants elaborated on an existing stigma in the building itself. Participants 1, 2, 3, 5 and 6 illustrated this sub-theme (as shown in Table 5).

Table 5. Building

Participant	Citations
1	Limited parking, poor ingress and egress roads and no basic facilities – for example, playground – usually family person want to playground for kids is one of the stigmas exist in facilities provided in the building.
6	Poor ingress and egress road.
5	Throw rubbish, some places don't have rubbish room, need to go down to throw rubbish, (…) another is for example when a unit is on level 10, the buyer needs to know which parking level. Usually, let's say parking has four levels and the unit starts on level 5. Unit in level 5 will get parking in level 1; they want to lift near with parking lot, not too far to walk.
	Oxidation pond in a compound apartment, unit in level 3 but facing oxidation pond, buyer not interested to buy.
	Middle/high-end strata – not prefer facing other units (…) distance between balcony, can see front unit (no privacy); Buyers do not prefer unit near with lift, no privacy.
2	Bad building management, people will think if want to buy a house there (…) is it lift okay here.
3	Nowadays the trend is Airbnb exists in housing schemes. Next door is Airbnb, a family house that does not like the next-door outsiders that stay for two or three days only (using the same facilities and cleanliness). If the rental house is okay, no issue. If investors want to buy the unit for Airbnb, they cannot buy there if house rule cannot operate Airbnb.
	For example, one space/unit face to dump room (architect floor design – units face to dump room). Other units face a lift and another unit is hidden. That causes people to not want to buy. More towards layout floors. Let's say one floor contains ten units, two units facing the lift and that two units are unsold (in terms of location and price, okay, but it is because the unit faces the lift). Another unit is a sliding door facing the park, but the bedroom faces the jungle or facing the neighbour's wall/facing the neighbour's toilet window.

Building-related stigmas, including poor design, inadequate facilities and inadequate maintenance, have a profound impact on potential buyers and residents. Ison and Budd (2016) emphasised the importance of physical

conditions, such as parking availability, ingress and egress, on buyers' decisions. Similarly, Mohamad (2020) found that poor building management, coupled with disruptive activities, like short-term rentals (e.g., Airbnb), reduces property appeal. These findings suggest that beyond just structural issues, the functionality and management of a building can create a negative perception, hindering both marketability and long-term value.

The physical and environmental conditions of a building also influence residents' health and social dynamics, further exacerbating negative stigmas. Okoye et al. (2021) highlighted the link between poor exterior conditions, such as broken windows, and adverse health effects, like reduced sleep quality. Additionally, in low-income housing, the physical attractiveness of buildings and surrounding environmental characteristics play a significant role in shaping public attitudes. Ramzanpour, Sharghi and Nourtaghani (2022) argued that these perceptions often correlate with social distance and interactions, meaning that the physical state of a building can influence not only how it is viewed but also the social behaviour of its inhabitants. Collectively, these studies underscore how building design, maintenance and environmental features shape perceptions, impacting both buyer decisions and community dynamics.

Natural disaster area

Natural disasters indirectly affect the selling point. In Malaysia, the common natural disaster is floods. Flood events can cause the ground soil in that area to move, making buyers concerned about buying as stated by the participants in Table 6.

Table 6. Natural disaster area

Participant	Citation
2	If have a new project, people will ask if it is flood area or not because before this has tragedy, that is stigma.
4	Flood area, people will think first either want to buy or not house that area.
5	Even though we convince that flood area (…) apartment near the river, ground soil that area moving that make buyer concern.
7	Buyers also take into consideration when to buy a house in a flood area.

Properties located in natural disaster-prone areas, such as flood zones, face significant stigma due to both economic and psychological factors. Research indicates that flood risks can significantly reduce property values

and increase stress levels for residents (Ismail, Karim and Basri, 2014; Wang et al., 2023). These risks undermine community satisfaction, as concerns over environmental phenomena lead to dissatisfaction with housing and neighbourhood conditions (Fontolan et al., 2022; Hu et al., 2023). Furthermore, demographic factors like age, gender and income play a critical role in shaping perceptions of risk. Higher-income individuals often perceive lower levels of risk, influencing their housing decisions differently from those with lower incomes (Hu et al., 2023).

Psychological factors also heavily influence housing choices in disaster-prone areas. Emotional responses, such as the effect of heuristics, lead people to base risk perceptions on past disaster experiences, with some offsetting negative views due to amenities like coastal views (Cheung and Yiu, 2022). However, these positive perceptions are often insufficient to outweigh the overall stigma associated with natural disasters. Additionally, prior disaster experiences, especially when less severe than anticipated, alter individual risk perceptions, potentially leading to reduced caution in future housing decisions (Gao, Liu and Shi, 2020). This complex interplay of economic, psychological and demographic factors underscores the challenges of property ownership in disaster-prone regions.

Main Theme 2: Non-physical Stigma

Non-physical stigma represents a property with an intangible physical asset defect (*New Straits Times*, 2012), either on the surroundings or environment of the property. This theme consisted of three sub-themes: (1) neighbourhood, (2) environmental pollution and (3) distance.

Neighbourhood

Every participant elaborated on the neighbourhood (as shown in Table 7). Sharma (2018) stated that the perception of safety and security can also be influenced by sociocultural factors, as seen in Columbus, Ohio and Milwaukee, Wisconsin, where safety was a universally important attribute across different racial and ethnic groups.

Table 7. Neighbourhood

Participant	Citation
1	More towards safety if that house or that place has many theft cases. Like a housing scheme, many foreigners.
4	Too many foreigners, people mindset if many foreigners – less safety, sexual harassment.
	That building many foreigners – lift often break down and people like to throw rubbish not in a provided area, like a criminal area – contamination common area, negative neighbourhood reputation.
2	Condominium B – buyers don't want to buy because foreign residents dominate the neighbourhood, people will be concerned more safety and security, in terms of the neighbourhood like drug cases, criminal cases (...) if that area has crime and many foreigners stay there. People will not buy it even though the housing space is big, has a swimming pool, etc. Common area is dirty or not, what majority race stay here, people will consider neighbourhood aspect – who live in that building.
5	Majority foreigner (...) usually buyers concern what community in that area, we can say they worry about safety. Buyers will ask who are the next-door neighbours, left and right door, front door, (...) either owner stay or tenant, what races.
6	Many classes of foreigners; lower class foreigner, middle class, etc. (...) low-class foreigner develop not good social environment, develop less safety environment. For example, kidnap cases, sexual harassment and cleanliness, up class foreigners develop unsuitable cultural surroundings such as drunk habits. Local social culture in the neighbourhood, sometimes they look into what majority of races in that area, because not match with social culture.
	Crime rate play a role – famous gangster area (...) rumours by the public.
7	Don't want to buy that area because majority stay there are foreigners because more towards safety, contamination common area, culture neighbour.
	For example, that area has many unsold units because that area is famous *mat rempit* (...) real-case recently related Zayn Ryan maybe if the buyer has kids, they don't prefer to buy that area.
3	In terms of neighbourhood, safety. It can be a stigma. If the house is good in design, good house price but the surrounding location is a crime area, is one of the stigmas also.

The safety of a neighbourhood is crucial in determining how desirable a property is and how satisfied residents feel. High levels of crime, gang presence and socially undesirable elements can lower property values and reduce purchase interest, as noted by Aliyu et al. (2016) and Burhan and Ching (2021). Similarly, areas with a high number of foreign residents often face stigmas, which further harm the neighbourhood's appeal (Leh et al., 2017; Suratman et al., 2019). Even when physical amenities are sufficient, issues like deprivation, poor safety, noise pollution and unclean environments can lead

to dissatisfaction and reduced well-being, as seen in Oslo (Mouratidis, 2020). These factors together significantly shape a neighbourhood's attractiveness, making safety and composition essential elements.

Besides physical conditions, the psychological effects of negative perceptions play a role in the stigma surrounding "bad" neighbourhoods. Such perceptions are closely linked to poorer mental health outcomes, deterring buyers who prioritise their well-being from buying (Williams, Woodard and Kuo, 2023). Moreover, aspects like housing quality and a sense of safety influence how attached residents feel to their community. In Guangzhou, for example, negative perceptions weaken neighbourhood attachment and satisfaction, making the city less appealing to buyers (Chang et al., 2022). This highlights the need to address both physical and psychological challenges to boost neighbourhood desirability and promote stronger community bonds.

Environmental pollution

Environmental pollution can be one of the stigma factors. Environmental pollution includes air, chemical, noise, soil and visual pollution, as stated by the participants in Table 8.

Table 8. Environmental pollution

Participant	Citation
1	Some people don't want to buy the house because it is near sewerage plant, because of stench.
	Another example is noise sound comes from the house beside the highway.
4	At night, the wind comes with a smell of rubbish. Unit facing waste dump site (500 m–1 km), especially high level and also the view of waste dump site not nice.
	Depend on the individual – cannot sleep with noisy surroundings, unit facing the main road.
5	Oxidation pond, when raining, will stench; if not raining, not smelly.
	Near the lift, noise from the lift – and when unit same level as facilities, noise from residents especially kids want to go to the swimming pool, the unit same level as flyover because the loud sound from surrounding and dusty rarely open window, sliding door, even though have beautiful night view.
6	Unit same level as flyover and from the unit can smell from dumpsite – stigma exists in that case.
7	Unit facing the highway and the same level as flyover is difficult to sell because of noise and no view, especially if they know have another choice of units and dumpsite not nice view and up level sometimes will smell something not nice.

Environmental pollution, which includes air and noise pollution, has a negative impact on the desirability of properties and housing purchases. Being close to pollution sources like highways, industrial plants and waste disposal sites often results in lower property values due to health risks and a reduced quality of life (Silva et al., 2020; Samuels and Freemark, 2022). Incinerators, in particular, exacerbate negative perceptions among residents, as these facilities are often linked to higher risks of environmental health issues, such as allergic rhinitis. This association leads to dissatisfaction with the surrounding environment and discourages potential buyers (Kim et al., 2022). Additionally, poor air quality affects both mental health and self-reported well-being, further decreasing the attractiveness of polluted areas and weakening housing demand (Zhu and Lu, 2023).

Noise pollution negatively impacts residents' well-being and perceptions of their living environment. The demand for quieter, healthier surroundings often drive homebuyers away from noise-affected areas (Akande et al., 2022). Beyond the physical effects, the psychological impact of pollution also significantly influences housing choices. For example, air pollution can increase levels of anxiety and irritation, discouraging people from engaging in outdoor activities, including property searches in polluted neighbourhoods (Qiu et al., 2020). These combined factors underscore how pollution affects not only residents' physical health but also their emotional well-being and behaviours, ultimately shaping property appeal and neighbourhood desirability.

Distance

This sub-theme is described by most of the participants, such as Participants 3, 5, 7 and 2 (as shown in Table 9). They stated that units located near the dumping point, units' proximity to the mosque, units' proximity to the dump site and the access road were not convenient as a stigma.

Table 9. Distance

Participant	Citation
3	For example, there are ten units of the house, but the house located at the end does not sell because besides dumping point.
5	Proximity to the mosque, non-Muslim does not like to near the mosque (…) on the religious part.
7	Proximity to the dumpsite, if up level difficult to sell.
2	Nice condominium – high end, but when to enter that area, need to through the wholesale market area, through slums area, people don't want to buy that house, no other access road.

Distance plays a vital role in determining property desirability, especially when being close to certain locations fosters negative perceptions. Properties near dumpsites, places of worship that do not align with buyers' beliefs or high-voltage power lines often see decreased values due to concerns over inconvenience, mismatched preferences and health or safety risks (Abhyankar, Prakash and Singla, 2023; Udugama and Mullims, 2023; Khalid and Zameer, 2023; Hajnal, 2022). Similarly, proximity to industrial sites, such as pipelines, has been linked to localised disamenity effects, with properties within 100 m of a pipeline easement experiencing price drops of up to 5.7% (Somerville and Wetzel, 2021). These findings illustrate how environmental and social compatibility significantly influence property values and desirability.

Negative perceptions are even more pronounced in disadvantaged neighbourhoods, where poor physical conditions and associated health risks deter prospective buyers (Chang et al., 2022). Such areas are often tied to worse health outcomes, particularly for individuals with lower levels of education, which deepens existing social disparities and further diminishes the appeal of these neighbourhoods (Hien, 2022). The distance from undesirable environmental or social elements plays a key role in housing decisions, as buyers prioritise safety, convenience and alignment with personal preferences to improve their quality of life. This highlights the need to address the environmental and social stigmas tied to proximity to undesirable locations to enhance property desirability.

Main Theme 3: Psychological Stigma

Psychological stigma represents a property that has neither physical nor environmental defects (*New Straits Times*, 2012) based on an individual's culture. This theme was supported by two sub-themes: (1) supernatural or paranormal and (2) ethnic belief.

Supernatural or paranormal

This sub-theme was mentioned by Participants 1, 4 and 7 (as shown in Table 10). They elaborated on notorious previous owners, haunted units and the appearance of ghosts when living near a cemetery.

Table 10. Supernatural or paranormal

Participant	Citation
1	Some people cannot live near the cemetery because they think it has ghosts.
4	Related to ghost, for example, Property C, which is the notorious previous owner (...) rumours by the public, this area is not good. Another example is that agents cannot sell the house because of rumours that the house is haunted.
7	Look into age factor; if the first buyer is young, they will ask if it is a haunted unit, but if a second buyer, they don't care.

Associations with the supernatural or paranormal, such as hauntings or tragic events, can significantly discourage buyers and negatively affect property values. Homes believed to be haunted or connected to unnatural deaths, such as suicides or homicides, often face serious challenges in the market, including reduced buyer interest and sharp price declines (Bhattacharya, Huang and Nielsen, 2022; Zhang, Zhu and Yang, 2022). These stigmas typically arise from cultural and psychological associations, instilling a sense of discomfort in potential buyers. Legal conflicts frequently occur over whether sellers must disclose such information, highlighting the need for transparency among sellers and real estate agents (Wu et al., 2024). Furthermore, the negative impact of these associations can sometimes extend to nearby properties, though the effect tends to fade over time (Lee et al., 2024).

Psychological factors further intensify the reluctance to purchase properties tied to paranormal or tragic occurrences. Belief in the supernatural, particularly among individuals with traits like schizotypy or manic-depressive tendencies, can increase stress and heavily influence decisions in high-pressure situations, such as buying a home (Dagnall et al., 2022). Traditional paranormal belief (TPB), characterised by the perception of external forces controlling outcomes, can heighten distress and reduce coping mechanisms, prompting buyers to steer clear of properties associated with supernatural events (Drinkwater, Denovan and Dagnall, 2024). These cultural, psychological and emotional dynamics reveal how deeply such factors influence property desirability and shape trends in the real estate market.

Ethnic belief

Ethnic beliefs, especially feng shui among Chinese, were mentioned by Participants 1 and 5 (as shown in Table 11).

Table 11. Ethnic belief

Participant	Citation
1	Feng shui, yin and yang, the position of the rising sun – Chinese, yes, have that belief. Some people, when buying a house, want to know the direction of sunrise.
5	Especially Chinese buyers will look to feng shui, facing where (…) late to sell because facing cemetery, even though house facing south (…) *Melayu* (Malays) sometimes also picking up not to buy when house facing cemetery.

Ethnic beliefs, particularly those rooted in traditional practices like feng shui, play a significant role in shaping housing preferences and purchasing decisions in multicultural societies like Malaysia. Fengshui, a traditional Chinese practice of harmonising living spaces with the environment, heavily influences the property market, especially among the Chinese Malaysian community. Factors such as house orientation, street location, the positioning of the main entrance and even house numbers are critical considerations that can impact property selection and pricing (Yap and Lum, 2020; Shafii et al., 2020). Studies have found a strong correlation between feng shui beliefs and housing purchase intentions, particularly among the younger generation in urban areas like the Klang Valley, emphasising that these cultural values remain integral in modern decision-making (Hassan, Tedong and Fadzilah, 2023).

Beyond feng shui, broader ethnic stereotypes and social perceptions can also shape housing decisions in Malaysia's diverse cultural context. Cognitive biases about different ethnic groups can influence individuals' housing preferences, affecting where and how they choose to live (Radzlan, Rosnon and Shaari, 2020). This dynamic underscores how cultural beliefs and social perceptions intertwine to shape the housing market, with specific ethnic practices like feng shui contributing not only to individual choices but also to property values and market trends. As a result, understanding and respecting these beliefs are crucial for stakeholders in the real estate industry to cater to the diverse needs and expectations of their clients.

CONCLUSIONS

The findings of this study underscore the multifaceted stigma associated with overhanging residential properties from the perspective of real estate stakeholders. This stigma manifests in physical, non-physical and psychological dimensions, creating significant challenges in the resolution of unsold housing units. While these results provide valuable insights, their context is specific to Malaysia, highlighting the need for caution when generalising to other cultural

or geographical settings. The study emphasises that addressing these stigma-related issues is pivotal in mitigating the problem of overhanging residential properties and fostering more sustainable market dynamics.

This study contributes meaningfully to the existing body of knowledge by shedding light on the intricate role of property stigma within the Malaysian real estate market. By doing so, it enriches the understanding of how stigma shapes market behaviours and outcomes, offering implications for policymakers and property professionals. Specifically, it calls for targeted strategies to reduce stigma and enhance the marketability of unsold residential properties, thereby informing more effective policy frameworks and professional practices.

Future research directions should extend these findings by examining the lived experiences of residents occupying unsold properties. Understanding how these resident perceptions influence and perpetuate property stigma can provide a more comprehensive view of the issue. This approach would not only bridge existing gaps in empirical research but also strengthen the connection between localised findings and broader literature on property stigma and real estate market dynamics. By addressing these areas, future studies can contribute to a deeper understanding of stigma's implications and foster more equitable and efficient housing markets globally.

ACKNOWLEDGEMENTS

REFERENCES

Abhyankar, A.A., Prakash, A. and Singla, H.K. (2023). Impact of solid waste landfill proximity on residential property offer values: A case study of Pune. *International Journal of Housing Markets and Analysis*, 18(2): 334–353. https://doi.org/10.1108/ijhma-08-2023-0109

Adzhar, S.M., Rahim, N.A., Basrah, N., Majid, R.A. and Mustafar, S. (2021). Overview on built environment planning: Residential overhang factors in Malaysian affordable housing. *IOP Conference Series: Earth and Environmental Science*, 881(1): 012018. https://doi.org/10.1088/1755-1315/881/1/012018

Ahmad, S., Zainudin, N. and Ibrahim, S. (2022). Infrastructure facilities and their impact on property valuation in Malaysia. *Journal of Real Estate Research*, 45(3): 231–245.

Akande, O.K., Adenle, A.A., Emechebe, L.C., Lembi, J.J., Ahmed, S., Eze, C.J. and Ajayi, M.R. (2022). Implications of residential housing exposure to urban environmental noise on resident's wellbeing in Minna, Nigeria. *Khulna University Studies*, 19(2): 20.

Aliyu, A.A., Muhammad, M.S., Bukar, M.G. and Singhry, I.M. (2016). Impact of crime on property values: Literature survey and research gap identification. *African Scholar Journal of Humanities and Social Science*, 4: 68–99.

Bernama (2023). Effective solution needed to resolve property overhang. *New Straits Times*, 2 June. Available at: https://www.nst.com.my/property/2023/06/915793/effective-solution-needed-resolve-property-overhang

Bhattacharya, U., Huang, D. and Nielsen, K.M. (2021). Spillovers in prices: The curious case of haunted houses. *Review of Finance*, 25(3): 903–935. https://doi.org/10.2139/ssrn.3077951

Birruntha, S. (2021). Property overhang likely to remain high in 2021. *The Malaysian Reserve*, 27 January. Available at: https://themalaysianreserve.com/2021/01/27/property-overhang-likely-to-remain-high-in-2021

Breglia, G. (2022). Who feels safe? Risk perception, land vulnerability and state intervention in a post disaster city. *International Journal of Disaster Risk Reduction*, 82: 103348. https://doi.org/10.1016/j.ijdrr.2022.103348

Burhan, B. and Ching, C.Y. (2021). Locational analysis of crimes and its impact towards the housing prices. *Research in Management of Technology and Business*, 2(1): 1412–1426.

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J. and Neville, A.J. (2019). The use of triangulation in qualitative research. *Oncology Nursing Forum*, 41(5): 545–547. https://doi.org/10.1188/14.ONF.545-547

Chan, N. (2001). Stigma and its assessment methods. *Pacific Rim Property Research Journal*, 7(2): 126–140. https://doi.org/10.1080/14445921.2001.11104100

Chang, J., Lu, T., Xie, D. and Lin, Z. (2022). Neighbourhood characteristics, deprivation and attachment: Evidence from Guangzhou, China. *Housing Policy Debate*, 32(4–5), 661–677. https://doi.org/10.1080/10511482.2022.2055613

Cheng, T.L. (2020). An unwanted problem of unsold units. *The Star*, 31 October. Available at: https://www.thestar.com.my/business/business-news/2020/10/31/an-unwanted-problem-of-unsold-units

Cheung, K.S. and Yiu, C.Y. (2022). Public perception of flood hazards in the housing market: A revealed preference study of affect heuristics and availability heuristics. *International Journal of Disaster Risk Reduction*, 75: 102977. https://doi.org/10.1016/j.ijdrr.2022.102977

Chong, L.H., Tan, W.J. and Lim, P.L. (2020). The role of cultural beliefs and superstitions in housing preferences: A Malaysian perspective. *Housing Policy Debate*, 30(4): 567–586. https://doi.org/10.1080/10511482.2020.1829284

Clair, M. (2018). Stigma. In J.M. Ryan (ed.), *Core Concepts in Sociology*. Hoboken, NJ: John Wiley & Sons, Ltd., 318–321. https://doi.org/10.1002/9781394260331.ch86

Clarke, V. and Braun, V. (2017). Thematic analysis. *Journal of Positive Psychology*, 12(3): 297–298. https://doi.org/10.1080/17439760.2016.1262613

Cohen, L., Manion, L. and Morrison, K. (2000). *Research Methods in Education*. 5th Ed. London: Routledge.

Dagnall, N., Michael. Denovan, A., Drinkwater, K. and Escolà-Gascón, Á. (2022). Paranormal belief and well-being: The moderating roles of transliminality and psychopathology-related facets. *Frontiers in Psychology*, 13: 915860. https://doi.org/10.3389/fpsyg.2022.915860

Devers, C.E. and Mishina, Y. (2019). Comments on stigma versus legitimacy. *Journal of Management Inquiry*, 28(1): 16–21. https://doi.org/10.1177/1056492618790898

Drinkwater, K., Denovan, A. and Dagnall, N. (2024). Re-evaluation of the relationship between paranormal belief and perceived stress using statistical modelling. *PLOS One*, 19(11): e0312511. https://doi.org/10.1371/journal.pone.0312511

Ejiogu, A. and Denedo, M. (2021). *Stigma and Social Housing in England*. Report no. SH-ENG-2021. Vol. 1. Durham: Durham University.

Fontolan, B.L., Del Roio, I.G., Esperidião, A.R. and Iarozinski Neto, A. (2022). Análise do risco de desastres naturais: Percepção do indivíduo em relação às características do meio urbano em cidades brasileiras. In *A: Seminario Internacional de Investigación en Urbanismo. XIV Seminario Internacional de Investigación en Urbanismo, Madrid-Curitiba, Junio 2022*. Barcelona/Madrid/Curitiba: Universitat Politècnica de Catalunya, Universidad Politécnica de Madrid and Universidad Federal del Paraná. https://doi.org/10.5821/siiu.12176

Gao, M., Liu, Y.-J. and Shi, Y. (2020). Do people feel less at risk? Evidence from disaster experience. *Journal of Financial Economics*, 138(3): 866–888. https://doi.org/10.1016/J.JFINECO.2020.06.010

Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. New York: Simon and Schuster.

Hajnal, I. (2022). Stigmatized properties: Filter theory. *IOP Conference Series: Materials Science and Engineering*, 1218(1): 012033. https://doi.org/10.1088/1757-899x/1218/1/012033

Hales, D. (2010). *An Introduction to Triangulation*. Geneva: The Global Fund to Fight AIDS, Tuberculosis and Malaria.

Hassan, M.M., Tedong, P.A. and Fadzilah, A.H.H. (2023). Feng shui superstitious belief: Does it influence young generations in housing purchase intention? *Planning Malaysia*, 21(5): 341–356. https://doi.org/10.21837/pm.v21i29.1375

Hennink, M.M., Kaiser, B.N. and Marconi, V.C. (2017). Code saturation versus meaning saturation: How many interviews are enough? *Qualitative Health Research*, 27(4): 591–608. https://doi.org/10.1177/1049732316665344

Hennink, M. and Kaiser, B.N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science and Medicine*, 292: 114523. https://doi.org/10.1016/j.socscimed.2021.114523

Hien, B.T. (2022). Placing a housing lens on neighbourhood disadvantage, socioeconomic position and mortality. *The Lancet Public Health*, 7(5): e396–e397. https://doi.org/10.1016/s2468-2667(22)00086-x

Horgan, M. (2020). Housing stigmatization: A general theory. *Social Inclusion*, 8(1): 8–19.

Hu, A. T., Tok, N., Bratu, I., Card, K. G., Martin, G. and Closson, K. (2023). Community satisfaction and risk perception of local devastation due to climate change. *The Journal of Climate Change and Health*. https://doi.org/10.1016/j.joclim.2023.100271

Hussein, M., Salleh, S. and Razak, A.R. (2021). Location-based factors in urban housing preferences: Evidence from Malaysian cities. *Urban Studies*, 58(7): 1125–1142. https://doi.org/10.1080/10511482.2021.1876372

Ismail, N.H., Karim, M.Z.A. and Basri, B.H. (2014). Does flood affect property values? A hedonic analysis of residential property values in peninsular Malaysia. *Journal of Business Management and Accounting*, 4: 1–14. https://doi.org/10.32890/jbma2014.4.0.8875

Ison, S. and Budd, L. (2016). Parking. In J.A. Soria-Lara (ed.), *Handbook on Transport and Urban Planning in the Developed World*. Cheltenham: Edward Elgar Publishing, 145–162.

Jamshed, S. (2014). Qualitative research method-interviewing and observation. *Journal of Basic and Clinical Pharmacy*, 5(4): 87. https://doi.org/10.4103/0976-0105.141942

Kathy, B. (2022). Residential overhang due to poor project planning and research by property developers?. *New Straits Times*, 4 April. Available at: https://www.nst.com.my/property/2022/04/785930/residential-overhang-due-poor-project-planning-and-research-property

Kelly, S. (2010). Qualitative interviewing techniques and styles. In I. Bourgeault, R. Dingwall and R. De Vries (eds.), *The SAGE Handbook of Qualitative Methods in Health Research*. California: SAGE Publications Inc., 307–326.

Khalid, S. and Zameer, F. (2023). Revisiting urban immovable property valuation. *The Pakistan Development Review*, 62(4): 493–520. https://doi.org/10.30541/v62i4pp.493-520

Kim, D. H., Lee, C. K., Kim, J. H., Son, B., Suh, C., Kim, K.-H. and Ye, B.-J. (2022). Risk perceptions of a population living near a municipal waste incinerator and associated factors with the prevalence of environmental disease. *Annals of Occupational and Environmental Medicine*, 34. https://doi.org/10.35371/aoem.2022.34.e38

Kurzban, R. and Leary, M.R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin*, 127(2): 187. https://doi.org/10.1037//0033-2909.127.2.187

Lau, E.J., Cheah, K.L. and Chia, S.P. (2021). Dwelling characteristics and their impact on buyer preferences in Malaysia. *International Journal of Housing Markets and Analysis*, 14(2): 320–335.

Lee, C., Yeh, W.-C., Lin, P.-S., Lee, J. and Dai, T. (2024). The impact of unnatural death stigmatization on neighboring property prices: Propensity score matching and difference-in-differences analysis. *Omega: Journal of Death and Dying*, Forthcoming. https://doi.org/10.1177/00302228241297726

Leh, O.L.H., Rosli, N.N.F.M., Marhalim, F.A. and Musthafa, S.N.A.M. (2017). Social impact of foreign immigrants in affordable housing area. Case study: Mentari Court, Selangor, Malaysia. *Planning Malaysia*, 15(2): 266. https://doi.org/10.21837/pm.v15i2.266

Malterud, K., Siersma, V.D. and Guassora, A.D. (2015). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research*, 26(13): 1753–1760. https://doi.org/10.1177/1049732315617444

Mohamad, N.A. (2020). Saying "yes" or "no" to short-term holiday letting in stratified properties in Malaysia. *International Journal of Business and Society*, 21(1): 137–151.

Mohd, A.R., Ismail, N. and Zain, M.A. (2023). Developer reputation and service quality in Malaysia's housing market. *Heliyon*, 9(1): e07892. https://doi.org/10.1016/j.heliyon.2023.e07892

Moser, A. and Korstjens, I. (2017). Series: Practical guidance to qualitative research. Part 1: Introduction. *European Journal of General Practice*, 23(1): 271–273. https://doi.org/10.1080/13814788.2017.1375093

Mouratidis, K. (2020). Neighbourhood characteristics, neighbourhood satisfaction and well-being: The links with neighbourhood deprivation. *Land Use Policy*, 99(99): 104886. https://doi.org/10.1016/J.LANDUSEPOL.2020.104886

NAPIC (National Property Information Centre). (2024). *Property Market 2023 Snapshots*. Putrajaya: Valuation and Property Services Department, Ministry of Finance Malaysia.

_____. (2023). *Property Market Report 2023: Residential Overhang*. Putrajaya: Valuation and Property Services Department, Ministry of Finance Malaysia.

New Straits Times (2012). Making sense of stigmatised properties. 20 July. Available at: http://www2.nst.com.my/nation/making-sense-of-stigmatised-properties-1.109915

Okoye, S.M., Spira, A.P., Perrin, N., Schrack, J.A., Han, H.R., Wanigatunga, S.K., Nyhuis, C. and Szanton, S.L. (2021). Exterior housing conditions are associated with objective measures of poor sleep among low-income older adults with disabilities. *Sleep Health*, 648. https://doi.org/10.1016/J.SLEH.2021.09.002

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. and Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42: 533–544. https://doi.org/10.1007/s10488-013-0528-y

Peng, J., Yan, S., Strijker, D., Wu, Q., Chen, W. and Ma, Z. (2020). The influence of place identity on perceptions of landscape change: Exploring evidence from rural land consolidation projects in Eastern China. *Land Use Policy*, 99(99): 104891. https://doi.org/10.1016/J.LANDUSEPOL.2020.104891

Pescosolido, B.A. and Martin, J.K. (2015). The stigma complex. *Annual Review of Sociology*, 41: 87–116.

Pistrang, N. and Barker, C. (2013). Varieties of qualitative research: A pragmatic approach to selecting methods. In H. Cooper (ed.), *APA Handbook of Research Methods in Psychology*. Washington: American Psychological Association, 5–18.

Qiu, Q., Wang, Y., Qiao, S., Liu, R., Bian, Z., Yao, T. and Nguyen, T.S. (2020). Does air pollution affect consumer online purchasing behaviour? The effect of environmental psychology and evidence from China. *Journal of Cleaner Production*: 260, 120795. https://doi.org/10.1016/J.JCLEPRO.2020.120795

Radzlan, R., Rosnon, M.R. and Shaari, J. (2020). Images in the human mind: Between stereotype and reality of the ethnic groups in Malaysia. *The International Journal of Academic Research in Business and Social Sciences*, 10(16): 412–422. https://doi.org/10.6007/IJARBSS/V10-I16/9020

Ramzanpour, M., Sharghi, A. and Nourtaghani, A. (2022). Assessing the public attitude towards low-income housing; (Case study: Small- and medium-density cities of Iran). *Frontiers in Built Environment*, 8: 870240. https://doi.org/10.3389/fbuil.2022.870240

Riger, S. and Sigurvinsdottir, R. (2016). Thematic analysis. In L.A. Jason and D.S. Glenwick (eds.), *Handbook of Methodological Approaches to Community-Based Research: Qualitative, Quantitative, and Mixed Methods*. Oxford: Oxford University Press, 33–41.

Salleh, N.A., Yusof, N.A. and Johar, F. (2019). Neighbourhood safety and housing decisions in Malaysia: A closer look. *Journal of Housing and the Built Environment*, 34(5): 1037–1050. https://doi.org/10.1007/s10901-019-09714-5

Samuels, G. and Freemark, Y. (2022). *The Polluted Life Near the Highway: A Review of National Scholarship and a Louisville Case Study*. Washington, DC: Urban Institute. Available at: https://www.urban.org/research/publication/polluted-life-near-highway

Shafii, H., Yi, L.P. and Yassin, A.M. (2020). The importance of feng shui influence on the housing selection among the Chinese in Generation Y: A study on the developers' perceptions. *Journal of Technology Management and Business*, 7(2): 23–31. https://doi.org/10.30880/jtmb.2020.07.02.003

Sharma, M. (2018). Community perspectives on neighbourhood characteristics and home-buying decisions. *International Journal of Geospatial and Environmental Research*, 5(1): 3.

Shien, T.C. and Kasim, R. (2022). The factors for residential properties overhang in Johor. *Research in Management of Technology and Business*, 3(1): 809–824.

Silva, L.T., Reis, C., Oliveira, C. and Silva, J.F. (2020). How the environment affects the residential property values?. In P.M. Arezes, J.S. Baptista, M.P. Barroso, P. Carneiro, P. Cordeiro, N. Costa, R.B. Melo, A.S. Miguel and G. Perestrelo (eds.), *Occupational and Environmental Safety and Health II*. Cham: Springer International Publishing, 743–748.

Somerville, T. and Wetzel, J. (2021). Environmental hazards: The micro-geography of land-use negative externalities. *Real Estate Economics*, 50(2): 468–497. https://doi.org/10.1111/1540-6229.12352

Suratman, R., Samsudin, S., Aminuddin, S.Z. and Saim, Z. (2019). Resident's perception on foreign workers housing in high rise residential building. *IOP Conference Series: Earth and Environmental Science*, 286(1): 012033.

Tan, S.M., Wong, Y.C. and Lim, J.K. (2020). Types of resident and price distribution in urban areas: An econometric approach. *International Journal of Environmental Research and Public Health*, 20(1): 445. https://www.mdpi.com/1660-4601/20/1/445

Tenny, S., Brannan, J.M. and Brannan, G.D. (2017). *Qualitative Study*. Treasure Island, FL: StatPearls Publishing.

Turečková, K., Martinát, S., Nevima, J. and Varadzin, F. (2022). The impact of brownfields on residential property values in post-industrial communities: A study from the eastern part of the Czech Republic. *Land*, 11(6): 804. https://doi.org/10.3390/land11060804

Udugama, G.K. and Mullins, J.T. (2023). Valuing the disamenity of open dumpsites: A Sri Lankan case study. *The Journal of Environment and Development*. https://doi.org/10.2139/ssrn.4490060

Vanlalnunpuii and AparnaAshKanojia (2023). A review of resilience measures for land subsidence-prone areas. *Journal of Housing and Advancement in Interior Designing*, 6(3): 1–15. https://doi.org/10.5281/zenodo.10163562

Wacquant, L.J. (1993). Urban outcasts: Stigma and division in the black American ghetto and the French urban periphery. *International Journal of Urban and Regional Research*, 17(3): 366–383. https://doi.org/10.1111/j.1468-2427.1993.tb00227.x

Wacquant, L., Slater, T. and Pereira, V.B. (2014). Territorial stigmatization in action. *Environment and Planning A: Economy and Space,* 46(6): 1270–1280. https://doi.org/10.1068/a4606ge

Wang, Z., Jiang, B., Wang, X., Wang, D. and Xue, H. (2023). Psychological challenges and related factors of ordinary residents after "7.20" heavy rainstorm disaster in Zhengzhou: A cross-sectional survey and study. *BMC Psychology*, 11(1): 3. https://doi.org/10.1186/s40359-023-01038-0

Williams, C., Woodard, N. and Kuo, C.C. (2023). Exploratory study of neighbourhood change effect on mental health in a highly gentrifying neighbourhood. *Research Square*, Preprint. https://doi.org/10.21203/rs.3.rs-3393425/v1

Wilson, V. (2014). Research methods: Triangulation. *Evidence Based Library and Information Practice*, 9(1): 74–75. https://doi.org/10.18438/B8WW3X

Wong, Y.C., Tan, S.K. and Chong, P.K. (2021). Demographic trends and housing market dynamics: Insights from Malaysia. *Cities*, 120: 103438. https://doi.org/10.1016/j.cities.2021.103438

Wu, M., Ma, C., Fang, M. and Fang, S. (2024). On the civil legal issues of "haunted house" sales contract: Take Peng Qian et al. and Chen Yuanhui et al. house sales contract dispute case as an example. *International Journal of Asian Social Science Research*, 1(1): 57–69. https://doi.org/10.70267/xqs54s36

Yap, J.B.H. and Lum, K.C. (2020). Feng Shui principles and the Malaysian housing market: What matters in property selection and pricing? *Property Management*, 38(5): 643–664. https://doi.org/10.1108/PM-01-2020-0001

Zhang, L., Zhu, L. and Yang, L. (2022). Impact of major events on housing prices in Hangzhou based on regression discontinuity. *International Journal of Strategic Property Management*, 26(3): 203–214.

Zhu, J. and Lu, C. (2023). Air quality, pollution perception and residents' health: Evidence from China. *Toxics*, 11(7): 591. https://doi.org/10.3390/toxics11070591