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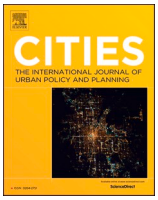

Forms and spatiality of street vending in informal settlements: The case of in-between spaces in Hanoi

Ngo Kien Thinh [a,*], Nastaran Peimani [a], Hesam Kamalipour [b]

[a] Welsh School of Architecture, Cardiff University, Cardiff, United Kingdom
[b] School of Geography and Planning, Cardiff University, Cardiff, United Kingdom

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ABSTRACT

Street vending plays a critical role in the informal urban economy of cities in the Global South, serving as a key source of livelihood for the urban poor. However, limited understanding of how street vending works and its relationship with urban forms hinders the development of effective planning policies and design interventions by local authorities. This paper explores the complex dynamics of street vending in the informal settlements of Hanoi, focusing on its interactions with public/private interfaces and mobility patterns within in-between urban spaces. Contrary to the common perception of informal vending as chaotic, this study sheds light on the socio-spatial negotiations and informal codes that shape the visibility and performance of various types of vendors. The paper provides a better understanding of the dynamics of informal street vending and contributes to how urban designers and planners can effectively engage with interventions in the Global South.

1. Introduction

Street vending is often defined in relation to both legality and location, as it typically takes place in public spaces outside of a formal regulatory framework (Bromley, 2000; Brown et al., 2010; Donovan, 2008; Sekhani et al., 2019). Although street vending makes a substantial contribution to the vibrancy and economic vitality of cities, it is often seen by local authorities as "out of place" (Yatmo, 2008), "underdeveloped" (Boonjubun, 2017), or even a "blemish" (Hanser, 2016) and "eyesore" (Rukmana & Purbadi, 2012). It is also perceived as "out of order" (Donovan, 2008) and harmful to the image of a "world-class" city (Anjaria, 2006; Tran & Yip, 2020; Xue & Huang, 2015), which often results in urban planning strategies that aim to eliminate it, particularly during preparations for international events or visits by foreign dignitaries (Setšabi & Leduka, 2008; Turner & Schoenberger, 2012; Xue & Huang, 2015). However, the significant role of street vending in fostering vibrant urban neighbourhoods is rarely acknowledged in official documents. Street vendors offer more affordable products, greater variety, and easier accessibility in terms of both time and proximity, making them crucial for the urban poor, who often cannot rely on the formal market (Saha, 2017; Wertheim-Heck et al., 2014). Therefore, street vending can potentially meet needs that are not supplied by the formal market, swiftly adapting to changing customer preferences. Beyond its economic contributions, street vending acts as a powerful external stimulus or social catalyst, encouraging interactions among people in public spaces who might not otherwise communicate with each other (Peimani & Kamalipour, 2024).

Understanding the socio-spatial dynamics of street vending is crucial for developing more effective urban planning and design solutions. Recent literature discusses the dominant policy responses to informal street vending, including aggressive enforcement, forced evictions and de facto tolerance (Peimani & Kamalipour, 2022a). Local authorities have employed different approaches to formalising informal street vending (Recio et al., 2017), often resorting to street cleansing operations aimed at removing vendors (Bhowmik, 2009; Boonjubun, 2017; Huang et al., 2019). Relocation to formal markets, a prominent spatial intervention, has often proven unsuccessful primarily due to the lack of customer traffic and the absence of adequate infrastructure amenities (Peimani & Kamalipour, 2022a). Hence, street vendors often have no choice but to "return to the streets" (Taylor & Song, 2016), and they are frequently forced into a cat-and-mouse game with law enforcement. Empirical research shows that top-down controls cannot be exerted over the self-organised tactics of daily living (Kamalipour & Peimani, 2019, 2021). Therefore, it is important to explore how informal street vending works in public spaces before determining what policies and strategies might best engage with formalisation processes.

* Corresponding author.
E-mail addresses: NgoT1@cardiff.ac.uk (N.K. Thinh), PeimaniN@cardiff.ac.uk (N. Peimani), KamalipourH@cardiff.ac.uk (H. Kamalipour).

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Street vendors strategically select their locations based on a variety of factors, with pedestrian flows being the most critical (Dovey, 2016; Peimani & Kamalipour, 2022b, 2024). They typically cluster close to major transportation hubs, retail nodes and public gathering places, such as railway stations, bus terminals, shopping centres and street intersections. Vendors assemble in these locations not because they particularly enjoy being there, but because the public needs their services (Bhowmik, 2009; McGee & Yeung, 1977). However, a key challenge is that these areas can quickly become overcrowded due to the clustering of vendors trying to make sales. This can escalate until pedestrian access is blocked (Kamalipour & Peimani, 2019), a phenomenon Bromley (2000) describes as "hyper-agglomeration". Buyers stopping to inspect goods can also block the thoroughfare, and the rubbish produced by vendors can create an unhealthy environment (Bromley & Mackie, 2009). The presence of street vendors often sparks competition with local shop owners, who view informal vending as a threat to their revenue. Therefore, efforts to remove street vendors from public spaces are often justified as measures to eliminate unfair competition, prevent encroachment, and preserve public cleanliness (Bhowmik, 2009; Setšabi & Leduka, 2008). Nonetheless, pedestrian flows remain the lifeblood of street vending.

While the appropriation of public spaces for street vending is commonly portrayed as problematic, empirical studies have revealed that street vending can actually enhance social interaction, safety and community vitality (Dovey & Polakit, 2009; Kamalipour, 2020; Kamalipour & Peimani, 2019). Practically, street vendors rarely have unrestricted access to these spaces and must negotiate with building owners and shopkeepers for access to water, electricity, and storage (Suryanto et al., 2020; Tafti, 2019). In return, local residents often warn street vendors about cleansing operations (Tran & Yip, 2020), a phenomenon known as the "practice of care" (Simone, 2018). As vendors adapt to the daily rhythms of urban life, their relationship with locals can strengthen the sense of safety and contribute to crime reduction, aligning with the notion of "eyes on the street" (Jacobs, 1961). Street vendors also help create mixed-use areas, enhancing the sense of place by allowing public spaces to serve diverse purposes. Research shows that street vending can also contribute to the beauty of the city, providing a traditional and nostalgic atmosphere while offering locals a variety of authentic food and craft products (Lincoln, 2008; Swai, 2019).

While it has been argued in the existing literature that access to and use of public spaces by street vendors are closely linked to other forms of informality (Dovey & Recio, 2024; Peimani & Kamalipour, 2022a), there remains a significant gap in both theoretical and empirical studies addressing the socio-spatial dynamics of street vending in relation to informal settlements and informal transport across different contexts and scales (Kamalipour, 2022). This paper aims to empirically bridge this gap by exploring the diverse types of informal street vending within informal settlements in the Global South — activities that often go undocumented and are left off the official maps (Kamalipour & Peimani, 2023; Robinson, 2002). The study seeks to contribute to the emerging body of knowledge dedicated to understanding and mapping the spatiality of street vending in relation to public/private urban interfaces and pedestrian flows in public spaces. To achieve this, the study poses the following questions: What spatial tactics do street vendors apply to appropriate public spaces for street vending in alleys? How do the public/private interfaces within alleys influence the dynamics of street vending? What forms of spatial control are applied in alleys to either enable or constrain street vending?

2. Street vending and in-between spaces

2.1. Typologies of street vending

Studies have shed light on various types of street vending through different indicators (Batréau & Bonnet, 2016; Bhowmik, 2005; Dalwadi, 2010; Dovey, 2016; Kamalipour & Peimani, 2019; Peimani & Kamalipour, 2022a). For example, Bhowmik (2005) and Dalwadi (2010) proposed two primary types of vendors: stationary and mobile. Stationary vendors can be further divided into two sub-types: static vendors who conduct business at a given place throughout the entire day, and semi-static vendors who operate for only a few hours, either in the morning, afternoon, or evening (Dalwadi, 2010). In Bangkok, Batréau and Bonnet (2016) found that fixed vendors, who are either registered with local authorities or "waiting for regularisation", typically maintain permanent stalls in designated areas or set up their shops in the same place. In contrast, mobile vendors are required to move continuously from spot to spot due to their unlicenced status, which prevents them from trading in public spaces for extended periods. Dovey (2016) proposed a spatial typology of informal vending, which ranges from vendors using fixed kiosks, walls or fences, to semi-mobile setups like tables or mats, and finally to fully mobile vendors utilising vehicles or push-carts. Kamalipour and Peimani (2019) expanded on this by identifying six types of street vendors, focusing on the degree of mobility within public spaces and their proximity to public/private urban interfaces. The key contribution of their typology lies in its fine-grained analysis of the ways in which street vendors negotiate space and visibility, and how they materialise a range of spatial claims, particularly in relation to public/private interfaces or the edges of public space — which has long been recognised as critical to the social and economic functions of public space (Kamalipour & Peimani, 2019).

From a social perspective, a few studies highlight that age and gender considerably influence the types of street vendors in the public realm (e.g., Maneepong & Walsh, 2013; Wilson, 1998). However, more empirical research is needed to incorporate these key characteristics into relevant typologies (Peimani & Kamalipour, 2022a). According to Maneepong and Walsh (2013), informal street vendors can be broadly classified into two groups of old and new generations. The new generation of vendors generally has a better understanding of local needs, possesses advanced business knowledge, and is more adept at using technology and languages. In contrast, many older vendors often provide food services and low-priced goods, generally lacking in innovation. While older street vendors tend to set up stalls in busy public spaces, younger vendors are more flexible in adapting to formal procedures and regulations. Thus, the younger generation of vendors is more likely to operate in private market areas, such as city centres or tourist attractions. Meanwhile, street vending in public space is a gendered practise in various cities worldwide. According to Wilson (1998), females in Latin America are more involved in small-scale operations such as selling food due to their need to balance housework with vending. These female vendors are mostly engaged in stationary vending, particularly in proximity to their homes where they are accompanied by other women vendors. On the other hand, male vendors, who can dedicate their entire time to their businesses, are more likely to engage in larger-scale operations and the sale of non-food goods.

In response to the hostile environment toward street vending, various tactics have been applied by street vendors (Adama, 2020; Lata et al., 2019; Turner & Schoenberger, 2012). Using examples from Hanoi, Turner and Schoenberger (2012) highlighted the different negotiation powers and tactics between itinerant street vendors and long-term residents operating fixed stalls. Particularly, itinerant vendors commonly learn and exchange information about the routines of local officers or make financial arrangements with local residents to use doorways for trading. On the other hand, fixed vendors, who previously worked in state-owned factories or enterprises, are far more likely so subvert discourses around vending to enable their livelihoods. Lata et al. (2019) illustrated how street vendors in Dhaka negotiate with sources of power, such as the police and local politicians, to get by in their everyday lives. According to Adama (2020), highly mobile vendors are likely to adopt spatial and temporal tactics such as operating at certain times of the day or relocating to relatively more secure sites. By contrast, less mobile vendors rely on informal relations and networks to inform each other and negotiate with local residents and friendly customers to use private

spaces.

Despite the growing focus on informal street vending, the forms and types of street vending in informal settlements remain underexplored, partly due to the lack of consistent databases. There are several key strategies for collecting data on the spatiality of informal street vending: official databases maintained by states, survey-based approaches and the use of open databases. Local media and official documents often report on street vendors operating on main streets, near public services and/or in tourist destinations (Li et al., 2022), where the visibility of street vending is high. The second method involves investigating case studies using observation, questionnaires, surveys or interviews with consumers, pedestrians, local officials or partitioners (Charman & Govender, 2016; Giroux et al., 2021; Peimani & Kamalipour, 2022b, 2024). While this strategy can provide detailed information about the locations and types of street vending, the case-by-case data collection process is resource-intensive and costly. As a result, the data collected may not be updated frequently and might not cover a wide range of urban conditions. The third strategy leverages open databases of street-level imagery, such as Google Street View and social media photos, to identify different types of street vending (Dovey & Recio, 2024; Dovey et al., 2022; Liu & Liu, 2022). This strategy of data collection can be applied in different contexts due to its easy access, cost-effectiveness, and human perspectives. Nevertheless, the coverage of street view databases might not be available in certain city sections due to factors such as complex networks of alleys and small roads, conflict zones, and unsafe areas, particularly in the Global South (Liu & Liu, 2022). As such, despite the growing number of studies about informal trading, the typologies of street vending in informal settlements remain an underexplored theme (Peimani & Kamalipour, 2022a).

In summary, existing studies have predominantly focused on forms of street vending around prominent public spaces, key access nodes, transit-oriented areas and major roads. Cities in the Global South are characterised by fast-changing and emerging forms of urban informality (Dovey & Polakit, 2009; Kamalipour, 2020; Thinh & Kamalipour, 2024; Thinh et al., 2023). Due to the prohibition of informal vending on main streets, vendors tend to operate in informal settlements, which generally feature a complex network of lanes and alleyways (Dovey, 2016). Also, while the use of large vehicles is limited in large streets, hawkers on foot and bicycles are often attracted to narrow alleys. Dense urban blocks with poor public transport access are also seen as ideal places for informal street vending, particularly for offering daily goods (Tran & Yip, 2020). Despite a significant portion of the global population currently residing in informal settlements (UN-Habitat, 2003), there is limited understanding of how street vending operates within these settlements to meet local needs. Thus, exploring the dynamics of informal street vending in informal settlements is crucial for developing policies and design strategies that are both contextually responsive and spatially grounded.

2.2. *In-between spaces*

Streets hold a central place in the literature on public spaces (Mehta, 2009). Jacobs (1961, p. 29) argues that "streets and their sidewalks, the main public places of a city, are its most vital organs". Historically, streets have been utilised to facilitate communication, entertainment and essential daily activities (Gehl, 2011; Rudofsky, 1969). In the Global North, many of these functions have shifted to other types of public spaces and buildings. However, in the Global South, residents still rely heavily on streets for social and leisure activities, such as eating, cooking, playing, meeting, and even street vending (Drummond, 2000; Gibert-Flutre & Son, 2016; Marnane, 2023; Suryanto et al., 2020; Thai et al., 2019). It is projected that the number of urban populations living in informal settlements will significantly increase in the coming decades (UN-Habitat, 2022). Many new informal settlements are expected to emerge in Africa and Asia, regions experiencing rapid urbanisation. The formation of informal settlements in certain contexts is often a result of rural villages being incorporated into expanding cities (Thinh et al., 2023; Thinh, Gao, & Pitts, 2024; Thinh, Kamalipour, & Peimani, 2024). Despite varying contexts and backgrounds, almost all types of informal settlements share some common characteristics such as narrow streets, cul-de-sacs and dynamic social activities (Gibert-Flutre & Imai, 2020; Gibert-Flutre & Son, 2016). Understanding how streetscapes work in relation to socio-economic conditions, particularly in informal settlements, is critical for sustainable development (UN-Habitat, 2012, 2013).

In recent decades, there has been growing exploration of the relationship between public/private interfaces and the vitality of communities and/or neighbourhoods across different contexts (Dovey & Wood, 2015; Gehl, 2011; Gehl et al., 2006; Jacobs, 1961; Jones, 2021; Kamalipour, 2017; Marnane, 2023). These studies seem to suggest that certain types of public/private interfaces can enhance social interactions, while blank façades and car setbacks may undermine community vitality. As such, the design of transitional zones should not be reduced to physical materials or aesthetics, but must also respond to social needs (Gehl, 2011). Nooraddin (1998) highlighted the concept of the "in-between space" in the context of Middle Eastern cities, which focuses on the interface between private buildings and the surrounding streetscape. This concept has gained considerable attention from scholars (Can & Heath, 2016; Dovey & Polakit, 2009; Gehl, 2011; Stevens, 2007) and is now widely understood as an interface between public and private domains as well as the dynamics of inside and outside boundaries, thresholds, and doorways. In many cases, in-between spaces are frequently used as parts of private property during specific times using both fixed and movable furniture and structures (Cihanger, 2018). In the context of informal urbanism in the Global South, in-between spaces in front of buildings are particularly valuable, offering opportunities for everyday life activities to spill into the public realm (Kamalipour, 2017, 2020, 2024; Marnane, 2023). Hence, these spaces do not have fixed boundaries; instead, they are shaped through the rhythms and negotiations of everyday life.

In urban design theory and planning practices, the study of how interfaces between public and private spaces work in relation to street vending remains underexplored. Previous studies have focused on the distribution of street vendors in relation to the types of products sold, gender dynamics, local practices, livelihood tactics, informal transport and responses to local officials in informal settlements (e.g., Dovey & Recio, 2024; Lata et al., 2019; Pham, 2024). Nonetheless, these studies do not seem to directly address the relationship between the physical characteristics of alleys and the tactics vendors use to operate and appropriate public spaces. This paper attempts to bridge this gap through analysing patterns of street vendors in in-between spaces. For the purposes of this study, "in-between space" is defined as the area of 1 m to 1.5 m from the spatial boundary of a building. This space might be demarcated by various materials, levels or small sidewalks in alleys. In the following section, we suggest six types of street vending in in-between spaces, drawing on examples from the city of Hanoi.

3. Research design and methods

This study deploys a case study research approach to enable learning from cities in the Global South that can contribute to debates on informality (Kamalipour, Aelbrecht, & Peimani, 2023). These cities, ranging from large metropolises to rapidly urbanising smaller hubs, differ significantly, particularly in terms of urban morphologies, walkability, and living environments. Adopting an "information-oriented" approach (Flyvbjerg, 2006), the selected study area represents typical conditions of street vending in the inner-city neighbourhoods of Hanoi, which are generally dense and compact with various cul-de-sacs and narrow alleys (Fig. 1). Two criteria were used to select the case studies: (1) reports on the locations of street vending in Hanoi (Atomei, 2017) and (2) the morphological characteristics of Hanoi (Gibert-Flutre & Son, 2016; Thinh & Gao, 2021). The initial visit took place in the summer of 2017, followed by follow-up visits in July and August 2022 to gather detailed

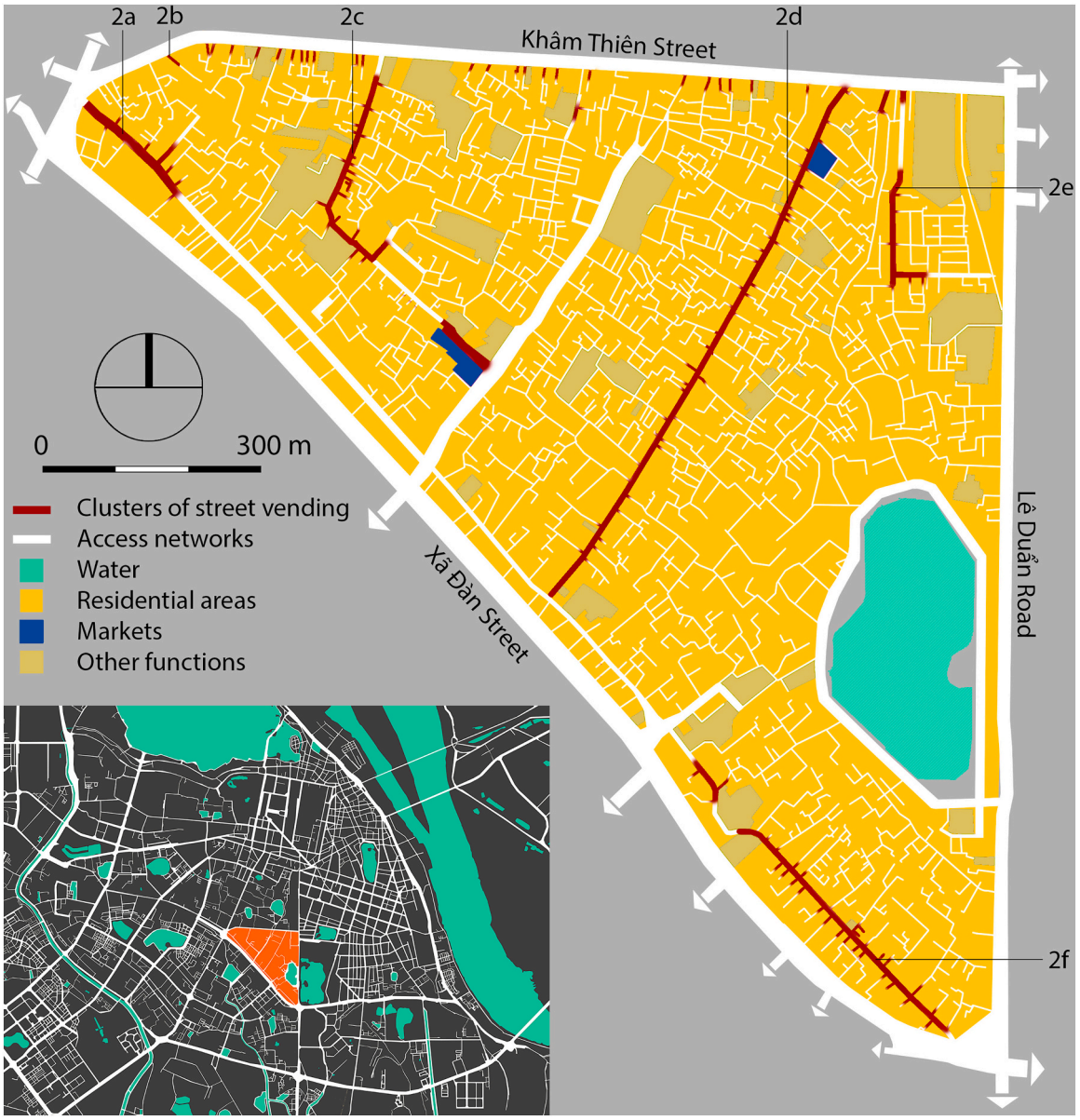

Fig. 1. Major locations of street vending in the studied area in Hanoi (Based on information published by the Ministry of Natural Resources and Environment, retrieved from https://qhkhsdd.hanoi.gov.vn/, accessed on 18-08-2024).

information on street vending types. The methods of data collection and analysis included non-participant observation, fieldwork notes, photography, filming and archival research. These methods have been used to gather data on functions, building density, access networks, public/private interfaces, and the street-life intensity. Wandering walks (i.e., explorative walks without specific departure or arrival points) have been conducted to observe the built environment in the studied area. All data was collected between 6:30 am and 10:30 am, when local residents typically visit street markets to buy fresh food (Wertheim-Heck et al., 2014). These early morning observations captured human interactions, informal street vending processes and movements within streets and alleys. Weekends and special events were avoided to ensure the data reflected typical conditions.

There are several limitations to this study, primarily due to the observation method's focus on the early morning hours. Previous studies suggested that the use of public spaces in Vietnam varies throughout the day (e.g., Gibert-Flutre, 2022; Kim, 2012, 2015). A building may be accessible in the morning but become inaccessible in the afternoon, and public/private interfaces may be used by different vendors at different times. Therefore, various mixed conditions influence the typology of street vending. In addition, informal settlements are among the most challenging environments for fieldwork (Kamalipour & Peimani, 2023). Observations of private areas and narrow alleys that appeared impenetrable have been avoided. Previous studies have illustrated that factors such as unlicensed/licensed status, generational differences, gender, and types of products considerably impact the forms and distribution of street vending (Maneepong & Walsh, 2013; McGee & Yeung, 1977; Peimani & Kamalipour, 2022a; Wilson, 1998). This study does not claim to be comprehensive since the required data was often unavailable or insufficiently accurate for micro-scale analysis. The study's focus on observational data identifies types and patterns in street vending but does not fully capture the nuances of vendors' interactions with property owners, residents, or authorities — a limitation that could be addressed in future research through semi-structured interviews and spatial mapping.

4. Spatial forms of street vending in informal settlements in Hanoi, Vietnam

While informal settlements have various forms, there are certain rules about their incremental development (Kamalipour & Dovey, 2020). Unlike formal urban planning where street layouts and building designs are regulated by planning tools, buildings and access networks in informal settlements adapt incrementally over time. Recent studies on Vietnamese cities, particularly Hanoi, have illustrated how rural villages with self-organised layouts have been incorporated into the urban fabric, transforming into extensive patches of informal settlements (Thinh et al., 2023; Thinh, Gao, & Pitts, 2024; Thinh & Kamalipour, 2022). The self-organised nature of these settlements results in a fragmented landscape, characterised by buildings predominantly under six floors but with relatively high gross coverage. The access networks incorporate a mix of streets and narrow cul-de-sac alleys (Fig. 1), with the cul-de-sac alleys often being less than 2.5 m wide (Gibert-Flutre & Son, 2016). This configuration typically precludes car access in most parts of informal settlements. While the access network is irregular, loose parts in the alleys are frequently used for motorbike parking, storage, plants, domestic activities, and informal vending (Thinh & Gao, 2021).

Due to the densification and intensification of development,

Fig. 2. Streetscapes in the alleys of the studied areas.

supermarkets and shopping centres are notably absent in many areas, particularly in the city core. The existing shops along the streets primarily offer expensive goods and services, often failing to meet the daily necessities of inhabitants. Thus, informal vending within alleys has become an important activity for providing essential goods and services (Eidse & Turner, 2014; Eidse et al., 2016; Gibert-Flutre & Son, 2016; Turner, 2013; Turner & Schoenberger, 2012). Street vendors tend to strategically select areas around primary alleys, where traffic moves slowly, as their vending locations (Fig. 2). On the other hand, street vending in narrow and cul-de-sac alleys is generally avoided due to poor visibility and limited customer traffic. In addition, street vending zones are often located near major intersections and public facilities, ensuring that local residents can conveniently access essential items without needing to travel to formal markets or shops. These informal vending zones offer not only convenience but also affordability. Residents can shop while commuting, whether they are taking children to school or returning home from work. Unlike formal markets and supermarkets, where vehicle access is typically restricted, potential customers can inspect goods from their motorbikes, saving both time and transportation costs (Wertheim-Heck et al., 2014).

Kamalipour and Peimani (2019) developed a typology of street vending based on two criteria of mobility within public space and proximity to the public/private interface. Building on this typology, this paper proposes to expand the focus to include various types of public/private interfaces and the degree of vendor mobility within alleys, with particular attention to pedestrian movement and in-between spaces in Hanoi, Vietnam.

The first criterion for classification is public/private interfaces. Some studies have illustrated different types of urban interfaces in informal settlements (e.g., Jones, 2021; Kamalipour, 2017; Marnane, 2023). Nevertheless, how these different types of public/private interfaces influence street vending remains unclear. Gehl (2011) and Gehl et al. (2006) have classified façades from "soft" to "hard" in relation to speed, transparency, and social activity. We identified three main types of public/private interfaces according to their accessibility: (1) inaccessible façades, (2) temporarily inaccessible façades, and (3) accessible façades (Fig. 3). These public/private interface types are particularly prevalent in informal settlements in the centre of Hanoi due to densification and intensification. As local residents continuously strive to maximise built-up areas, little to no space is left for gardens or setback areas. Inaccessible façades mainly refer to the walls of public and private buildings. Temporarily inaccessible façades are found in residential buildings where doors or gates are mostly closed, particularly during the morning. In contrast, an accessible façade is characterised by entrances or gates that are typically open for commercial activities.

Regarding mobility, previous studies have identified three primary forms of street vendors: mobile, semi-mobile, and stationary (Dovey et al., 2022; Kamalipour & Peimani, 2019; McGee & Yeung, 1977). Mobile vendors typically operate with portable selling units, ranging from bicycles to handheld baskets, allowing them to easily navigate different locations. Semi-mobile vendors, on the other hand, set up temporary stalls or selling units that are dismantled or removed at the end of the day. Stationary vendors, by contrast, use fixed stalls that remain in public spaces permanently. As this study mainly observed street vending in the morning, it was often challenging to distinguish between semi-mobile and stationary vendors. Therefore, we primarily focused on two predominant types: stationary and mobile vendors (Batréau & Bonnet, 2016; Bhowmik, 2005, 2009; Dalwadi, 2010). Stationary vendors typically occupy public spaces such as pavements or parks for extended periods — sometimes for many years — despite lacking formal legal rights to these areas. On the other hand, mobile vendors use different types of transport and constantly move between locations to avoid the restrictions associated with unlicenced vending in public spaces while maximising access to potential customers. The relationship between public/private interfaces and informal vending can be classified into six types (Fig. 3).

The first type consists of stationary vendors located around accessible façades (Fig. 4). These façades often serve commercial functions, so vendors avoid using any permanent structures or making significant spatial modifications. Instead, products are displayed directly on tables, stalls, or baskets or hung on walls to enhance visibility. The main types of products sold are raw food including fish, meat, and vegetables, which are key for daily needs. Due to the high visibility of vending along key alleys, it is quite competitive to select good locations. Generally, vendors need to negotiate with local households to secure these prime spots. In return, locals may provide services and facilities such as water, electricity, or storage, as needed. This arrangement benefits vendors by allowing goods to be provided and stored for extended periods during the day due to the stability of the location.

The second type is stationary vendors located around temporarily inaccessible façades (Fig. 5). Since most buildings in alleys within informal settlements are difficult to access by public transport and cars, not all buildings in these areas serve commercial functions and remain accessible at all times. Vendors generally negotiate with residents to use public spaces around these temporarily inaccessible façades during particular times. This type is commonly found in large alleys, particularly near junctions between alleys and streets. Households generally open their doors only when they need to go out; therefore, the public

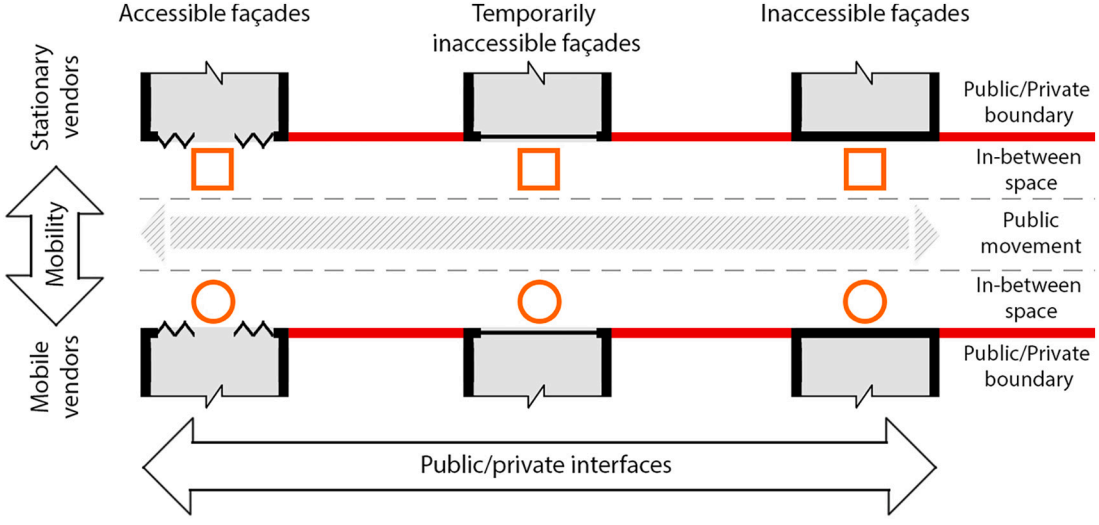

Fig. 3. A typology of informal street vending in the alleys of Hanoi.

Fig. 4. Stationary vendors - accessible façades.

spaces around temporarily inaccessible façades become valuable trading spots. Vendors tend to invest more in their businesses by acquiring tables, chairs, or stalls. Also, temporary structures that use tarpaulin and umbrella can be used to protect products from heavy rain. The products sold are diverse, ranging from meals for breakfast and lunch, snacks, and drinks to raw food. To attract customers, vendors hang advertising panels and shop banners around their shops to highlight the products they sell and enhance visibility. A key advantage of this type of vending is that it uses a space that cannot be used for other functions at specific times of the day.

The third type refers to situations where stationary vendors use public spaces around inaccessible façades (Fig. 6). In informal settlements, where historical development and traditional living styles have shaped the urban landscape, many buildings are designed in a long, narrow, tube-like shape. Typically, the doors of these buildings open directly onto streets or key alleys, rather than onto narrow and cul-de-sac alleys. Therefore, inaccessible façades are commonly found at the intersections of streets and small alleys. To attract customers and reduce rental costs, street vendors set up their business against the walls of public and residential buildings. As shown in Fig. 6, these vendors offer a wide range of products and services, from haircuts to tea and food shops. Since these shops commonly operate during the day, vendors often create temporary structures using umbrellas or tarpaulins to protect their goods and increase their visibility. This type of street vending can potentially become vital social points, where local residents not only use the services but also gather to chat and unwind after a long day of hard work.

The fourth type consists of mobile vendors operating in front of accessible façades. This type is rare as mobile vendors typically stay in in-between areas for only a few minutes either while potential buyers check their goods or while the vendors take a brief rest during midday. To avoid disrupting traffic, vendors always position themselves on one side of key alleys. Mobile vendors generally live in peri-urban areas and travel to the city centre to sell their goods during the daytime. To enhance mobility, they use modified vehicles, bicycles, or pushcarts to transport their goods. As shown in Fig. 7, common products include flowers, seasonal vegetables, fruits, and basic domestic items that are not generally sold in local shops. Due to their high mobility, mobile vendors tend to follow familiar routes in the city to find customers (Tran & Yip, 2020; Turner, Zuberec, & Pham, 2021; Zuberec & Turner, 2022). This type of vendors can easily adapt to the conditions of small alleys and cul-de-sacs since they do not require permanent spots for vending.

Fig. 5. Stationary vendors - temporarily inaccessible façades.

The fifth type refers to a situation where mobile vendors occupy public spaces in front of temporarily inaccessible façades (Fig. 8). Vendors tend to occupy spots in less crowded parts of alleys that still have substantial flows of pedestrians, such as secondary alleys connecting several cul-de-sac alleys to key alleys or streets. Since informal street vending can block access to buildings, vendors might have to move to other places if residents file complaints. Therefore, there are no permanent spots for mobile vendors. Many vendors rely on their experience to identify potential trading areas. This type of street vending offers a limited range of products such as vegetables, fruits, or take-away food, that can be easily stored in baskets or modified vehicles but are difficult to find in nearby shops. During peak time, mobile vendors prefer locations near markets and schools (Tran & Yip, 2020). Their presence can enhances the sense of place and identity in these areas, providing a range of goods that are more affordable in term of both price and distance.

The last type of street vending occurs when mobile vending takes place around inaccessible façades (Fig. 9). These vendors frequently move throughout the city in search of customers (Turner et al., 2021; Zuberec & Turner, 2022) and often seek out unoccupied spots near marketplaces or schools to maximise their exposure to potential customers (Tran & Yip, 2020). To avoid law enforcement and conflicts with residents, they tend to use loose parts along blank façades in alleys. Like other types of mobile vendors around both accessible and temporarily inaccessible façades, they typically sell simple products, including seasonal fruits, vegetables, and basic domestic items. However, what distinguishes this type is that, over time, some vendors might manage to set up permanent spots in crowded alleys.

5. Discussion

Previous studies have highlighted different forms of street vending, often focusing on key public spaces, roads and transit nodes (Dovey et al., 2022; Kamalipour & Peimani, 2019; Yatmo, 2008). However, comparatively little research has explored how street vending operates within informal settlements (Peimani & Kamalipour, 2022a). Using examples from Hanoi, this study identifies six types of street vending. Table 1 illustrates these types and their spatial tactics in the alleys of Hanoi. The types identified in this study are not exhaustive, as various subtypes may emerge under different socio-economic and morphological conditions. Nevertheless, they offer insights into the dynamics of informal urbanism in the Global South. Key findings are summarised and discussed in the following paragraphs.

Fig. 6. Stationary vendors - inaccessible façades.

Drawing on De Certeau (1988), it can be argued that urban informality highlights the distinction between state strategies and the tactics employed by ordinary individuals. In the context of Hanoi, each group of vendors appears to use different tactics for negotiating and appropriating in-between spaces. It is important to note that invisibility may protect residents and livelihood practices in informal settlements as it can allow the state to overlook such activities (Dovey & King, 2011; Kamalipour & Dovey, 2019). Media reports on street vending typically focus on main streets, particularly in popular tourist areas (Barthelmes, 2018). For this reason, local officers often patrol these main streets, where street vending is banned, rather than the small alleys. To evade cleansing operations, mobile vendors often seek refuge in narrow alleyways to hide or move to different neighbourhoods where officials from other wards lack the authority to fine them (Turner et al., 2021; Turner & Schoenberger, 2012). In some alleys, mobile vendors may negotiate with local officers to pay a daily fee for the right to trade (Pham, 2024). Also, moral justifications are common tactics employed by mobile vendors to evoke compassionate complicity from local officers who might turn a blind eye (Barthelmes, 2018). Therefore, vending in alleys is perceived as much safer than on the streets. Even when complaints arise, mobile vendors can simply relocate to nearby spots. On the other hand, stationary vendors, leveraging strong social connections, often negotiate with local residents to use in-between spaces around their houses. An annual fee might be charged to maintain access to prime locations and/or to secure access to key services such as water and electricity (Turner, 2013). Even when ground floors are used for shops, street vendors may negotiate with shopkeepers to occupy in-between spaces, as long as they provide different types of products.

Our study indicates a somewhat similar distinction between stationary and mobile vendors in the study area. Stationary vendors commonly cluster in key alleys to attract customers, often requiring a tactical approach to minimise competition. Therefore, these vendors rarely offer similar products, with the types of goods they sell closely linked to the specific in-between spaces they occupy. This clustering not only influences the variety of products available but also impacts the appropriation of these spaces. Particularly, stationary vendors engage in negotiations with shopkeepers and residents to effectively secure and use these in-between spaces. This tactical positioning allows them to offer a diverse range of products, from haircut services to food and tea shops. As such, stationary vendors are able to invest more in their businesses such as creating temporary structures to enhance their performance. In contrast, mobile vendors are constantly on the move and

Fig. 7. Mobile vendors - accessible façades.

are restricted to less desirable in-between spaces. Lacking agreements with residents to use these in-between spaces, they can only occupy them temporarily — often for mere minutes or hours — before needing to find other places in response to complaints. This transient dynamic restricts their product offerings to easily transportable items, such as seasonal vegetables, flowers, food, and domestic products that can be carried in baskets, bicycles, pushcarts, or modified vehicles.

Lynch (1981) revealed spatial control in relation to different rights, including the right of presence, the right of use and action, the right of appropriation, the right of modification and the right of disposition. In Vietnam, there are almost no guidelines on how and where street vendors can operate in urban areas, except for banned areas for street vending (Turner, 2013). In the context of street vendors occupying public spaces in alleys, there are unwritten rules, which are particularly relevant to two rights: (1) the right of use and action without blocking passage for others, and (2) the right of appropriation, which prevents other vendors from claiming the same spots. Firstly, informal vendors adeptly select public spaces depending on available spaces along inaccessible façades or doorways, while the middle of alleys is reserved for the flow of movement. As overcrowded traffic can do more harm than good for informal businesses, vendors generally occupy in-between spaces, around 1 m to 1.5 m wide, typically near walls or doors. In larger alleys, vendors tend to set up on both sides, leaving the middle clear for traffic movement (Fig. 10a). In the case of smaller alleys, they occupy only one-site, with the rest reserved for traffic (Fig. 10b). Vendors operating near accessible façades always leave a small path to provide access to the building and avoid conflicts with residents (Fig. 10c). In contrast, spaces around temporarily inaccessible or inaccessible façades might be fully occupied by vendors. Secondly, vendors commonly use different tactics to enhance visibility. To show control over in-between spaces, stationary vendors often use temporary structures (Fig. 10b, d, and e). Particularly, umbrellas, tarpaulins, tables, chairs, and stalls are commonly used, while signs and advertisement panels are hung on walls. Even after vending hours, food stalls might be covered and pulled to one side of the alleys to mark their spots.

Due to the dynamic social and vending activities occurring at different times, many alleys are among the most vibrant places (Gibert-Flutre & Son, 2016). However, not all public spaces seem to be suitable for street vending. Buildings along streets and in large alleys often serve multiple functions, including a mix of living and commercial activities. Typically, the upper levels of these buildings are for living spaces, while the ground floors are frequently used as shops. Therefore, the presence

Fig. 8. Mobile vendors - temporarily inaccessible façades.

of street vendors can create potential conflicts by impacting the visibility of these storefronts. As a result, vendors can only occupy spaces with inaccessible façades on main streets. On the other hand, alleys offer greater opportunities for using in-between spaces around accessible and temporarily inaccessible façades, as these are mainly used for residential purposes and small shops. The fluid and dynamic spatial changes in these spaces allow for a greater functional mix. Also, evolving social agreements enable the continuous modification and adaptation of spatial forms over time.

The findings in this paper support the recently developed "inventraset" framework (Dovey & Recio, 2024), which focuses on the interrelations between different forms of informality. Rather than being seen merely as a problem, street vending has the potential to contribute to addressing sustainable development challenges—provided that appropriate policies are developed and implemented. Street vendors are typically among the urban poor who choose to trade in public spaces due to limited economic opportunities stemming from limited skills and education (Bayat, 1997; Bhowmik, 2005; Huang et al., 2018). For many, street vending serves as the main source of income to sustain their livelihoods. The common tactic of "ready to run", employed by street vendors to evade enforcement agents (Adama, 2020), highlights their persistence and resilience. Despite street cleansing operations aimed at eliminating them from the public realm, street vendors generally return to their usual locations and/or nearby areas to continue trading. This resilience suggests that simply wishing street vendors away from cities in the Global South is neither feasible nor ethical. A more realistic and effective approach involves upgrading facilities and infrastructure to support informal street vending while developing more nuanced design codes to address potential escalations and conflicts, thereby ensuring the sustained functionality of public spaces over time. Particularly, our observation suggests logical connections between street vending and other forms of informality. While informal settlements provide affordable housing for the urban poor, street vending supplies goods that are often produced or prepared in these settlements (by stationary vendors) or in peri-urban areas (by mobile vendors) for local residents. Also, as it is difficult to access informal settlements by cars and trucks, street vendors often use small vehicles or travel on foot to transport goods. As such, street vending works as a primary source of affordable food and products. Vendors also tend to locate themselves at key intersections between main alleys and streets, making shopping convenient for residents by allowing them to combine errands with other activities. The use of in-between spaces for street vending is often facilitated through forms

Fig. 9. Mobile vendors - inaccessible façades.

of socio-spatial negotiation, and alliances between vendors and local residents have the potential to foster socio-economic diversity.

6. Conclusion

The design of public spaces extends beyond mere physical or aesthetic considerations; it fundamentally influences our understanding of social encounters in the public realm. Urban design plays a critical role in shaping built environments that facilitate social interactions and activities within public spaces (Gehl, 2011; Jacobs, 1961). In the Global South, however, the appropriation of public spaces for street vending is often viewed as a sign of chaos and a violation of collective rights (Bhowmik, 2009; Peimani & Kamalipour, 2022a). This paper highlighted how exploring different types of street vending in public spaces can offer valuable insights into the dynamics and design of the urban environments. Street vending not only contributes significantly to the urban economy by creating jobs and providing services that may not be available in local neighbourhoods but also enhances the vibrancy and liveability of these areas (Saha, 2017). Micro-scale interventions in public spaces for street vending have the potential to contribute to the shaping of place, particularly in the context of informal settlements.

Although proposing specific design guidelines for informal street vending in public spaces is beyond the scope of this paper, one can advocate for the development of more adaptable and inclusive design guidelines by urban designers and planners. Firstly, understanding the context in which street vendors operate and the tensions arising from their interactions with the surrounding environment is critical (Yatmo, 2008). Urban planners and designers must be able to effectively address such tensions, viewing street vendors not as obstacles to be removed but as key actors in the urban informal sector and potential contributors to more inclusive and sustainable urban development. Secondly, developing a framework for street vending in in-between spaces is critical to providing flexible structures and facilities. Such a framework should emerge from negotiations between various stakeholders. Residents living near key alleys may need to adapt to the shared use of these spaces as vendors set up along both sides. Street vendors should also play a role in maintaining the quality of public spaces, contributing alongside other stakeholders to ensure these areas remain functional and inclusive. Local officials should also ensure that street vendors operate within their designated areas and uphold standards for the quality of their products.

It is important to recognise that effective interventions in public spaces depend on a sophisticated understanding of context, visibility,

Table 1
Types of street vending and their spatial tactics in the alleys of Hanoi.

Mobility	Spatial tactics in relation to public/private interfaces		
	Accessible façades	Temporarily inaccessible façades	Inaccessible façades
Stationary vendors are mostly local residents living in alleys selling cooked-food, raw meat and essential services	Negotiation with residents and local officers to use in-between space	Negotiation with residents and local officers to use in-between space Temporary structures might be used to highlight spots and enhance performance	Negotiation with residents and local officers to use in-between space Temporary structures might be used to highlight spots and enhance performance
Mobile vendors are mostly rural-to-urban migrants living in peri-urban areas selling fruits, vegetables, flowers and domestic items	Negotiation with local residents to use in-between space Ready-to-go if complaints arise Using the same route every day to seek customers	Ready-to-go if complaints arise Using the same route every day to seek customers	Occupy in-between space during particular times Using the same route every day to seek customers

and socio-spatial dynamics. This requires a detailed exploration of how street vending works within urban environments. As the observations in this study focus on the morning, it is important to explore different tactics for the appropriation of in-between spaces at other times, particularly in the evening. However, such an exploration must take into account ethical considerations, including the safety and wellbeing of vendors, especially those from marginalised groups. Furthermore, researchers must navigate ethical challenges related to conducting observations in evening settings, such as ensuring their own safety, obtaining informed consent, and minimising any disruptions or unintended consequences for the vendors being studied. There are few studies on street vending in Hanoi during the evening (Linh, 2022; Turner et al., 2021); nevertheless, these studies mainly focus on large public spaces, historical areas, and main streets. Due to the limitations of observational methods, certain forms of street vending — such as informal appropriation of public spaces for food stalls and home-based businesses in the evening within informal areas — could not be explored in this study. While this study focuses on the appropriation of in-between spaces for street vending in Hanoi, the identified typological patterns must be further tested across different contexts and timeframes. Although the existing literature studies the relationships between socio-economic conditions, such as age and gender, and trading tactics, further detailed analysis is needed to more extensively investigate these dynamics. Future studies could also focus on social negotiations between vendors, governmental agencies, local residents, and shopkeepers, as well as the impact of gender on street vending patterns in alleys. Future research could engage with the following key questions: How does the use and appropriation of public spaces for street vending influence the built environment and functional mix within dense neighbourhoods? In what ways does informal vending impact the image of a world-class city? What tactics are employed by vendors (particularly women),

Fig. 10. Vendors using public spaces for informal trading rarely block access paths and different temporary structures are used in these spaces.

residents, and local authorities in managing the visibility of street vending in alleys? Are similar types of street vending observed in other places or at different times of the day?

There are several conceptual starting points for the further studies. Firstly, research has shown that informal morphologies take various spatial forms, even within a single city (Dovey & Kamalipour, 2018; Dovey & King, 2011; Kamalipour, 2016). A key question, then, is under what conditions informal morphologies enable or constrain different types of street vending. Spatial analysis should not only focus on street vending but also encompass broader informal appropriations of public space, including seating, playing, cooking and trading by local residents and shopkeepers. Such studies align closely with urban assemblage thinking which emphasises multiple-scale analysis (Dovey, 2012; Kamalipour & Peimani, 2015). Secondly, while there is an extensive body of research on street vending, spatial knowledge on the subject is often conveyed through words and numbers, with images serving a merely illustrative role. However, since spatial data that cannot be perceived directly can become visible through mapping, urban mapping presents a powerful tool for providing new insights into the city (Dovey & Ristic, 2017; Pafka & Dovey, 2024). For example, Peimani and Kamalipour (2022b, 2024) use urban mapping to illustrate relationships between key urban aspects, including functional mix, ground-floor storefronts, pedestrian flows, and street vending. Similarly, Dovey et al. (2022) and Dovey and Recio (2024) explore the visibility of street vending at different scales in Manila and its interconnections with other forms of informality. Turner et al. (2021) and Zuberec and Turner (2022) present mobile methods for narrative mapping to track the daily routes of street vendors. Behaviour mapping (Mehta, 2009) also offers a useful approach to understanding vendors' spatial decisions and the use of in-between spaces in the Global South. Future research could build on these methodologies to enhance our understanding of the dynamic and evolving role of street vending in shaping urban spaces.

CRediT authorship contribution statement

Ngo Kien Thinh: Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Nastaran Peimani:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization. **Hesam Kamalipour:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization.

Declaration of competing interest

We declare no conflicts of interest related to this publication. The first author received the Vice-Chancellor's Scholarship at the University of Huddersfield; however, the funder had no role in the design of the study; data collection, data analysis, data interpretation; manuscript writing, or in the decision to publish the results.

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Data availability

The relevant data is primarily contained within the article.

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