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Happy urban public spaces: a systematic review of the key factors affecting citizen happiness in public environments

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ABSTRACT

Urban spaces play a crucial role in shaping the happiness of individuals and communities. However, understanding the factors that contribute to urban happiness is challenging due to the complex and subjective nature of the concept, as well as the scattered nature of the relevant literature. This paper presents a systematic review aimed at identifying the factors that contribute to the happiness of citizens in urban public spaces. The review, which followed the PRISMA method, includes literature from eight academic search engines covering the period from 2000 to 2023. A total of 57 papers were analyzed, resulting in the identification of 64 factors across eight domains: physical, ecological, visual, functional, social, subjective, political, and personal aspects. This comprehensive overview of these factors provides a broad landscape of influences on urban happiness. Policymakers and urban planners can use this overview to enhance citizens' quality of life and happiness.

Introduction

Picture this: a bustling city filled with high-rise buildings, crowded streets, and endless noise. Amidst this chaos, there exist pockets of serenity – places that seem to radiate happiness and contentment. What distinguishes these spaces? What factors contribute to the happiness of citizens in urban environments? This question is of significant importance, given that more than half of the world's population resides in cities (Tonne *et al.* 2021). While cities are known to be society's driving force of innovation, creativity, and development, they also pose serious social, environmental, and economic challenges (Samavati and Ranjbar 2017, 2019, Nieuwenhuijsen and Khreis 2019). Studies have demonstrated that characteristics of the urban environment influence residents' health (Sadeghpoor *et al.* 2024), mental health (Hematian and Ranjbar 2022), and emotional states (Birenboim 2018, Benabbou and Lee 2019), making it increasingly relevant for policymakers, urban designers, and architects to design livable cities that support a high quality of life, evoke positive emotions, and promote citizen happiness (Weijs-Perrée *et al.* 2020). The 'Happy Cities' movement, endorsed by the World Health Organization since 1986, emphasizes the importance of Urban Happiness for people's overall quality of life (Zhang 2016). Empirical evidence shows that self-reported happiness of people closely depends

on their perceived health status, and at the same time, the happiness of individuals deeply affects their health status (Veenhoven 2008, Borghesi and Vercelli 2012). The level of health is one of the most important factors affecting happiness, and there is a positive correlation between happiness and physical and mental health (Ballas 2013). Findings of healthy city programs (such as physical activity programs, smoking reduction, resident health promotion, development of walking and cycling paths, parks, and green spaces) lead to increased happiness among citizens (Lee and Yoon 2020). Furthermore, there is a belief that happiness contributes to physical well-being, suggesting that the development of 'Happy Cities' could be a means to achieve 'healthy cities' (Toger *et al.* 2021). Urban happiness can be defined as the combined impact of various qualities of the public space that determines citizen happiness (Samavati and Desmet 2022). It is a multifaceted concept that encompasses a positive perception of a place by its inhabitants and induces them to spend a long time there (Sepe 2016). In addition, it represents a quantitative measure of the overall satisfaction and quality of life of citizens in a specific geographic area, typically a neighborhood or city (Battistoni *et al.* 2023).

Urban spaces are integral and valuable assets of the urban built environment (Mandeli 2019). A successful

urban space is a livable, sociable, and highly frequented space with qualities of attractiveness (Sadeghi *et al.* 2023). They play a significant role in the daily lives of urban residents (Han *et al.* 2022, Samavati and Desmet 2022), contributing to economic prosperity, civic solidarity, local identity, and an improved quality of life for communities (Yeo and Heng 2014, Crotty 2020). Urban public spaces, when they possess visually pleasing aesthetics, can enhance citizens' happiness (Seresinhe *et al.* 2019). Rogers *et al.* (2011) found that citizens residing in more pedestrian-oriented neighborhoods have higher levels of health and happiness compared to those living in areas with less pedestrian orientation. However, despite the wealth of research and the increasing interest in happiness within contemporary societies (Brdulak and Brdulak 2017, Toger *et al.* 2021), research on people's happiness in relation to the multiple aspects of urban public spaces is still limited. Furthermore, there is no cohesive perspective on the integration of diverse dimensions and variables of urban public spaces in influencing happiness. In other words, while the concept of a happy city has been well-investigated, the exploration of happiness in relation to smaller scales, such as public spaces, has not yet been adequately addressed. As a consequence, public spaces are often planned and designed without explicit or well-informed consideration of citizens' happiness. Therefore, we propose the relevance of identifying the key factors that affect citizen happiness in public spaces. Ideally, these factors can inform the development of inclusive urban public spaces where people have more positive experiences, which eventually could lead to happier citizens (Weijs-Perrée *et al.* 2020).

This paper presents a synthesis review across various fields related to urban environments, with the primary objective of identifying the key factors influencing the happiness of citizens in urban spaces. The review involves a comprehensive analysis of existing literature, including studies that examine the relationship between environmental qualities and happiness in urban spaces. Additionally, the review assesses the publication records and frequencies of the analyzed studies. The findings aim to provide policymakers and urban planners with insights into the key factors impacting citizen happiness in urban public spaces. Furthermore, we identify gaps within the current literature and propose potential ideas for future research. Ultimately, this review aims to contribute to the development of urban public spaces that promote citizen happiness and overall well-being.

Materials and methods

The systematic review focused on articles published in English to explore the factors that influence citizens' happiness in public open spaces. To address the main concepts, theories, and knowledge gaps, the review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach (Liberati *et al.* 2009). Relevant studies were identified and screened following the PRISMA guidelines, whichis a 27-item checklist that addresses the introduction, methods, results, and discussion sections of a systematic review report (McInnes *et al.* 2018). The flow of information through the different phases is visualized in Figure 1 and detailed below.

Stage 1: Defining the research question

In this study, our primary focus is to gain a comprehensive understanding of the factors that influence citizen happiness in urban public spaces. Examples of such urban public spaces include small parks, plazas, courtyards, local neighborhoods, and alleys. Our specific goal was to identify factors that have been substantiated through empirical evidence. As a result, the research question was formulated as follows: What factors have been empirically demonstrated to impact citizen happiness in urban public spaces?

Stage 2: Identifying relevant literature

We conducted searches in four databases: Web of Science, Science Direct, PubMed, and MDPI. To manage the volume of literature, searches focused on English articles from journals and conference proceedings, with a timeframe ranging from 2000 onwards. To ensure comprehensive coverage, additional searches were conducted in journals published by Elsevier, Springer, Taylor & Francis, Sage, and Wiley Online Library, within the fields of architecture, landscape design, and happiness studies. The search terms included ('urban space*' OR 'public space*' OR 'built environment*') AND ('happiness' OR 'happy'). Due to distinct search engine configurations, we adopted diverse approaches across different databases. For instance, searches in Web of Science and Science Direct involved title, abstract, and keywords, while those in MDPI, PubMed, Wiley, Sage, and Taylor & Francis Online relied on abstract-based searches. A content-based search approach was employed for Springer. The searches resulted in the compilation of a dataset comprising 985 papers.

Stage 3: Screening eligibility of the dataset

A two-tiered screening process was employed to ensure the selection of relevant literature. The initial stage involved abstract reviews, refining the dataset to 94 papers. The subsequent second stage was a full-text screening of these 94 papers. This stage led to the
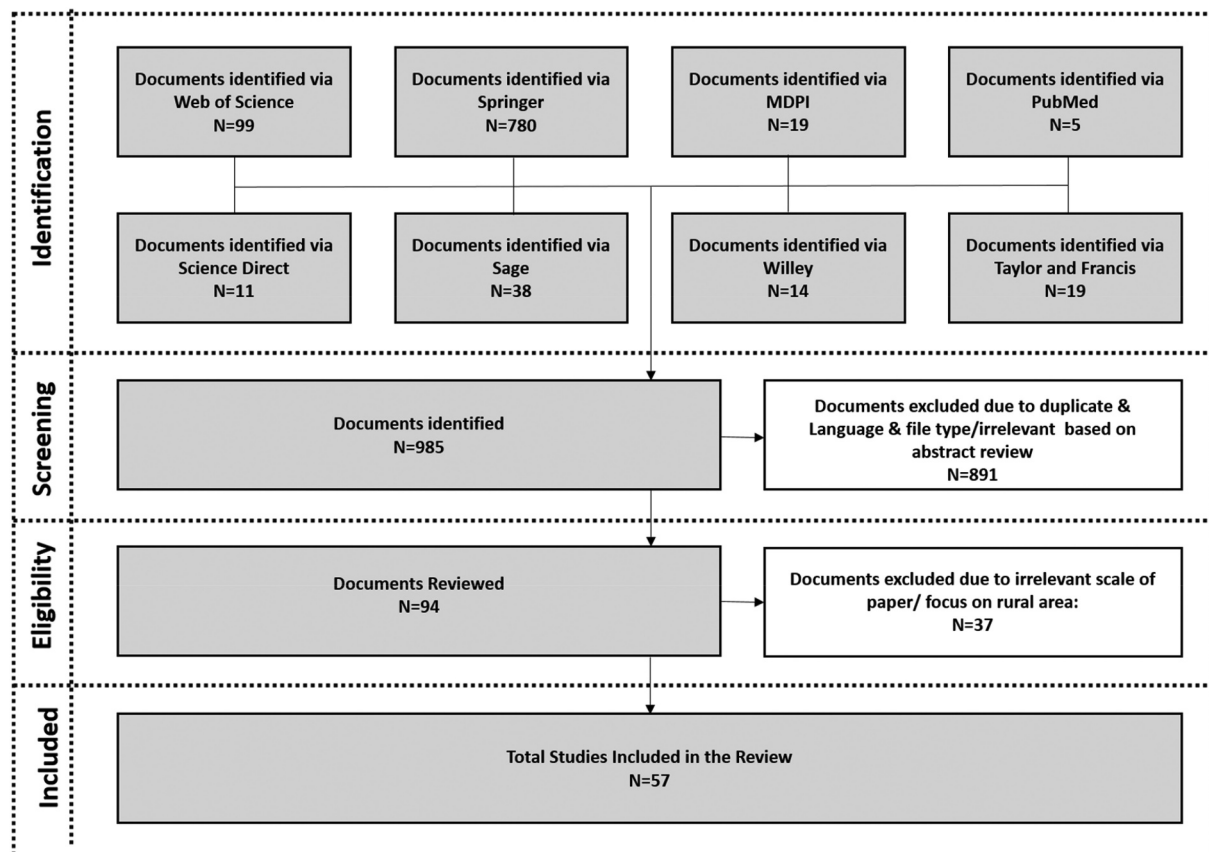
Figure 1. The review process.

exclusion of 37 articles that fell outside the scope of our study. These exclusions included, for example, studies focusing on public spaces in rural areas, studies that did not specifically address urban public spaces (e.g. macro-scale topics such as tourism), or studies that presented factors that were not sufficiently empirically substantiated. This screening process yielded a final dataset of 57 papers, as shown in Table 1 (third column).

Results and discussion

The final dataset of 57 papers was analyzed using a 'thematic analysis', guided by the theoretical framework presented by Braun and Clarke (2006). Thematic analysis is a descriptive method that involves identifying recurring patterns within data to gain deeper insights into concepts, ideas, and perspectives present in the literature (Vaismoradi *et al.* 2013, Castleberry and Nolen 2018). Thematic analysis offers accessible and systematic procedures for deriving codes and themes from qualitative data (Clarke and Braun 2017). Codes are the building blocks of the thematic analysis. Briefly stated, a code is a label assigned to a coding unit, intended to capture the meaning of that unit (Wæraas 2022). During the coding process, we carefully reviewed the papers in our dataset, identifying relevant factors related to happiness in urban public spaces. This process led us to compile a list comprising 64 distinct factors associated with happy urban public spaces. These factors encompassed

diverse dimensions such as physical attributes referred to as Built Environment factors; Green spaces categorized under Ecological factors; community engagement representing Social factors; utilization efficiency relating to Functional factors; aesthetic appeal denoted by Visual factors; personal experiences encapsulated within Subjective factors; political influence captured through Political factors; and individual characteristics recognized as Personal Factors. Once all relevant factors were identified, a comprehensive categorization process was undertaken. Each factor underwent careful examination, considering its primary focus and subsequently being assigned to one of the eight defined categories. This classification scheme supports a holistic understanding of all contributing aspects related to happy urban public spaces. Supplementary Appendix 1 provides a comprehensive review of the identified papers and their relevant results.

Factors associated with happiness in urban spaces-based studies

The thematic analysis revealed 64 factors that influence happiness in urban spaces. We categorized these factors into eight categories: Built Environment Qualities, Ecological Factors, Social Factors, Functional Factors, Visual Factors, Subjective Factors, Political Environment Qualities, and Personal Factors. Table 1 provides an overview of all

Table 1. Factors that influence happiness in urban spaces.

Category	Factor	References
Built Environment factors	Connectivity, accessibility, public transportation	Ala-Mantila *et al.* (2018); Kwon *et al.* (2019); Lai and Deal (2022); Park *et al.* (2021); Wang *et al.* (2022).
	Promote bicycling, pleasure of bicycling	Ma and Ye (2022).
	Walkability	Godwyll and Buzinde (2022); Kent *et al.* (2017); Kwon *et al.* (2019).
	Friendly urban furniture	Luo *et al.* (2022); Shedid and Hefnawy (2021).
	Hygiene and waste management	Qiao *et al.* (2019)
	Street density	Park *et al.* (2021)
	Well-designed urban space	Alvarez and Müller-Eie (2022).
	Place-based promotion of happiness	Pykett (2022).
	Community layout	Chen and Zhang (2018).
Ecological factors	Greenery	Ballas and Tranmer (2012); Cheng (2020); Kwon *et al.* (2021); Lai and Deal (2022); Mourão *et al.* (2019); Rapuano *et al.* (2022); Roberts *et al.* (2019); Schwartz *et al.* (2019); Van Herzele and De Vries (2012).
	Sustainable community gardens	Gray *et al.* (2022).
	Access to blue space	Zhang *et al.* (2021).
	Frequency of park visits	Lai and Deal (2022); Rapuano *et al.* (2022); Schwartz *et al.* (2019).
	Environmental comfort	Benita *et al.* (2019); Glass *et al.* (2014); Su *et al.* (2022); Weijs-Perrée *et al.* (2020); Yan (2019).
Visual factors	Visual aesthetic qualities, visual attractiveness	Kwon *et al.* (2019); Luo *et al.* (2022); Mehaffy (2021); Seresinhe *et al.* (2019).
	Scenic environment/street landscape	Chen and Zhang (2018); Seresinhe *et al.* (2019).
	Hardscape color	Rapuano *et al.* (2022); Saeedi and Dabbagh (2021).
	Paving color	Saeedi and Dabbagh (2021).
	Neighborhood appearance (upkeep, maintenance)	Karuppannan and Sivam (2013); Kent *et al.* (2017); Kwon *et al.* (2019).
	Public art	Benita *et al.* (2019); Luo *et al.* (2022); Negami *et al.* (2018).
Social factors	Sense of safety and security	Kent *et al.* (2017); Lin *et al.* (2022); Ma and Ye (2022); Park *et al.* (2021); Weijs-Perrée *et al.* (2020).
	Social environment	Chen and Zhang (2018); Godwyll and Buzinde (2022); Kühner *et al.* (2021).
	Social cohesion	Anderson *et al.* (2017); Ballas and Tranmer (2012).
	Social capital	Mavruk *et al.* (2021); Somarriba Arechavala *et al.* (2022).
	Social networks with friends	Hong and Park (2021); Somarriba Arechavala *et al.* (2022).
	Socio-economic status	Park *et al.* (2021)
	Low crime levels	Park *et al.* (2021)
	Dance in public space	Chen and Zhang (2018). Lin *et al.* (2020);
	Vibrant and diverse social interactions	Birenboim (2018); Kurian *et al.* (2019); Lepri *et al.* (2015); Yan (2019).
	Equality	Gray *et al.* (2022); Mavruk *et al.* (2021).
	Inclusiveness and diversity of users and activities	Alvarez and Müller-Eie (2022); Shedid and Hefnawy (2021).
	Spaces for sharing experiences	Kurian *et al.* (2019).
	Playfulness, interactive designs	Donoff (2017); Nikolic and Yang (2020).

(Continued)

Table 1. (Continued).

Category	Factor	References
Functional factors	Event and festivals	Benita *et al.* (2019); Chen and Zhang (2018); Hong and Park (2021).
	Mixed land use	Alvarez and Müller-Eie (2022); Duan *et al.* (2022); Park *et al.* (2021); Wang *et al.* (2022).
	Local public goods	Wang *et al.* (2019)
	Commercial land use	Park *et al.* (2021)
	Food street design	De la Salle (2019)
	Proximity to recreation facilities and colleges	Park *et al.* (2021)
	Leisure time and recreational place	Benita *et al.* (2019); Birenboim (2018); Lin *et al.* (2022); Liu *et al.* (2021); Shams and Kadow (2021); Yan (2019); Yu *et al.* (2019).
	Leisure activities, cultural facilities	Benita *et al.* (2019); Hong and Park (2021).
Subjective factors	Adoptability and flexibility	Lin *et al.* (2022).
	Place Attachment	Ballas and Tranmer (2012); Negami *et al.* (2018); Shedid and Hefnawy (2021).
	Trust and participation	Hong and Park (2021); Negami *et al.* (2018); Quirk *et al.* (2021); Somarriba Arechavala *et al.* (2022).
	Place identity, city image	Chen and Zhang (2018); Gutiérrez and Törmä (2020).
	Multisensory Richness	Glass *et al.* (2014); Shedid and Hefnawy (2021).
	Satisfaction with overall quality	Mehaffy (2021); Qiao *et al.* (2019); Sadeghi *et al.* (2022); Weijs-Perrée et al (2019, 2020).
	Compatibility with users need	Alvarez and Müller-Eie (2022); Pykett (2022); Wang *et al.* (2022).
	Balance between daily primary needs and leisure	Alvarez and Müller-Eie (2022);
	Perceived evaluations of built environment	Chen and Zhang (2018); Kent *et al.* (2017).
Political factors	Government strategies and policies	Hong and Park (2021); Kühner *et al.* (2021); Pykett (2022).
	Community led physical/urban intervention	Anderson *et al.* (2017); Negami *et al.* (2018).
	Small-scale, low-cost urban design interventions	Anderson *et al.* (2017); Navarrete-Hernandez and Laffan (2019).
	Social welfare service	Chen and Zhang (2018).
	Population density	Wang *et al.* (2022).
	GDP Level of nation.	Kwon *et al.* (2021).
Personal factors	Education	Park *et al.* (2021).
	Age composition of place	Kurian *et al.* (2019); Park *et al.* (2021).
	Health satisfaction	Ballas and Tranmer (2012); Mehaffy (2021).
	Living in wealthier districts	Kühner *et al.* (2021).
	Employment status	Ballas and Tranmer (2012); Somarriba Arechavala *et al.* (2022).
	Income	Hong and Park (2021).
	Perceived aspects of life	Mavruk *et al.* (2021).
	Personal freedom	Somarriba Arechavala *et al.* (2022).

categorized factors considered in the relevant studies, along with corresponding references; below, we describe the main factors within each category.

Built-Environment factors

Multiple papers highlight the significant impact of the built environment on happiness in urban spaces. The physical environment of a community encompasses a wide range of features, such as buildings, walkways, infrastructure, and transportation elements (Kwon *et al.* 2019). Table 1 includes nine key factors related to physical qualities that affect citizens' happiness in an urban environment. Specifically, *connectivity, accessibility, and mobility*, such as the availability of bike-friendly

infrastructures (Ma and Ye 2022), *perceived walkability*, *access to services* (Kent *et al.* 2017, Donoff 2017, Kwon *et al.* 2019, Godwyll and Buzinde 2022, Sadeghi *et al.* 2022), *and motivators of pedestrian activity*, promote happiness and pleasure in urban spaces (Karuppannan and Sivam 2013, Kent *et al.* 2017, Ala-Mantila *et al.* 2018, Chen and Zhang 2018, Kwon *et al.* 2019, Shedid and Hefnawy 2021, Park *et al.* 2021, Wang *et al.* 2022, Lai and Deal 2022, Ma and Ye 2022). As stated by Kwon *et al.* (2019), objective and subjective measures of walkability may have varying degrees of influence. Individuals who believe they live near a highly walkable community have a higher level of recreational quality of life and happiness.

Furthermore, the presence of *friendly urban furniture* was found to be positively associated with happiness in urban spaces (Shedid and Hefnawy 2021, Luo *et al.* 2022). In addition, *street density* and *well-designed urban spaces* have been shown to have a positive impact on the wellbeing and happiness of people (Park *et al.* 2021, Alvarez and Müller-Eie 2022). Finally, researchers have also identified that a *place-based promotion of happiness*, as well as *community layout*, can contribute to the overall happiness of people in urban spaces (Chen and Zhang 2018, Pykett 2022).

Ecological factors

Various studies have shown that ecological qualities affect citizens' happiness. Table 1 provides five factors, including greenery, the frequency of park visits, access to blue spaces, and environmental comfort. Among these factors, *greenery* was found to be more frequently mentioned in studies and has a positive effect on happiness, as supported by a range of studies (e.g. Ballas and Tranmer 2012, Schwartz *et al.* 2019, Gray *et al.* 2022). Similarly, the *frequency of park visits* was also found to be correlated with happiness in urban spaces (Zhang *et al.* 2021). Studies indicate that citizens who have better access to a diversity of green infrastructure, live in greener neighborhoods (Van Herzele and De Vries 2012), or have a higher level of green space per capita (Cheng 2020), report higher levels of happiness in urban spaces. Green public spaces can facilitate physical activity, have positive effects on health and mental wellbeing, provide stress relief, and offer natural coolness and shade (Wood *et al.* 2017, Sugiyama *et al.* 2018). *Access to blue spaces* was also found to be an important factor impacting the happiness of citizens in urban spaces. Also, *environmental comfort*, which represents a sense of physical or psychological ease in relation to the external surroundings, was found to have a significant impact on happiness in urban spaces through the reduction of unpleasant (natural or artificial) sensory influences, such as unpleasant light, temperature, draught, humidity, noise level, and smells (e.g. Glass *et al.* 2014, Benita *et al.* 2019, Weijs-Perrée *et al.* 2020, Su *et al.* 2022).

Visual factors

Research indicates that visual and aesthetic qualities of urban spaces, such as a scenic environment, are important factors affecting citizens' happiness. Table 1 includes a total of six factors related to visual environment qualities. Several studies have consistently demonstrated that individuals residing in *visually appealing* and *aesthetically vibrant* urban environments perceive higher levels of happiness (e.g. Kwon *et al.* 2019, Shedid and Hefnawy 2021). Notably, the presence of *attractive, aesthetically pleasing, and colorful urban spaces* (Saeedi and Dabbagh 2021), as well as *scenic landscapes* (Chen and Zhang 2018, Seresinhe *et al.* 2019), has consistently been associated with heightened levels of happiness among urban residents. In addition, *well-maintained urban spaces* have been found to be an important factor contributing to the happiness of citizens (Kent *et al.* 2017, Kwon *et al.* 2019). Finally, the incorporation of *public art* in various forms, as permanent or temporary artworks in public areas, from natural statues or monuments to graffiti painted on walls, can enhance the visual attractiveness of public spaces and has a significant effect on citizens' happiness (Negami *et al.* 2018, Benita *et al.* 2019, Luo *et al.* 2022).

Social factors

Studies that focused on the socio-spatial dimensions of urban space and the social integration of citizens with the urban space revealed several important variables that contribute to the happiness of citizens in public spaces. People are happier in urban spaces when they feel *safe and secure* (e.g. Kent *et al.* 2017, Shedid and Hefnawy 2021, Park *et al.* 2021, Ma and Ye 2022). For example, experiencing less crime in urban spaces can enhance the happiness of citizens (Park *et al.* 2021). The presence of *playful and interactive design*, such as dance in public spaces, has also been shown to increase happiness (Donoff 2017, Chen and Zhang 2018, Nikolic and Yang 2020, Lin *et al.* 2020) (see Table 1).

The *overall quality of the social environment* (Chen and Zhang 2018, Kühner *et al.* 2021, Godwyll and Buzinde 2022), *social cohesion* (e.g. Ballas and Tranmer 2012), and *social capital* (Mavruk *et al.* 2021, Somarriba Arechavala *et al.* 2022), were also found to be significant determinants of happiness in urban spaces. For example, urban spaces that provide *opportunities for social networking among friends*, *families* (Hong and Park 2021), *sharing experiences* (Kurian *et al.* 2019), and p*romoting vibrant and diverse social attractions*, were found to be positively correlated with urban happiness (e.g. Minea 2012, Yan 2019, Shedid and Hefnawy 2021). Lastly, citizens experience a higher level of happiness in more *equal urban spaces*, *inclusive urban spaces*, with a diversity of

users and activities, which promote the social qualities of the environment.

Functional factors

Several functional factors can affect citizens' happiness in urban spaces. *Events and festivals* have been found to have a positive impact on urban happiness (Chen and Zhang 2018, Benita *et al.* 2019, Hong and Park 2021). Benita *et al.* (2019) suggest that not only places but also *activities* play an important role in momentary happiness, as exemplified by the number of intellectual, cultural, and physical activities that can be performed at community centers.

Similarly, frequent studies indicate that urban spaces with *mixed land use* can make for happier urban spaces for citizens (Park *et al.* 2021, Duan *et al.* 2022). As Duan *et al.* (2022) indicated, the land use degree should be appropriately increased, as it is positively correlated with citizens' happy sentiments. Based on the observation of the land type in articles, it was found that commercial land use can generate happier citizens and happier public spaces (Park *et al.* 2021). Additionally, the study of Alvarez and Müller-Eie (2022) indicates that the *distribution of services and amenities* has a strong effect on residents' happiness. The *provision of local public goods* has also been found to be significantly related to urban happiness (Wang *et al.* 2019). Similarly, the *design of food streets* has been found to significantly influence urban happiness (De la Salle 2019).

Finally, *cultural opportunities, leisure activities, and cultural facilities* are positively related to urban happiness (Benita *et al.* 2019, Hong and Park 2021).

Subjective factors

Research suggests that citizens who are more satisfied with aspects of urban space report a higher level of momentary and long-term happiness. The reviewed articles indicated a well-being impact of eight types of perceived environmental qualities (see Table 1).

One key finding of our review was that the *adaptability and flexibility* of an urban space is a crucial factor in promoting happiness. Lin *et al.* (2022) reported that the adaptability of an urban space is the degree to which it allows users to modify the space according to their needs and preferences, and they showed a direct influence of citizens' level of place attachment and their urban happiness (see also Shedid and Hefnawy 2021). Negami *et al.* (2018) research suggests that *community-driven interventions that promote place attachment*, including relatively simple and low-cost projects, can enhance individual and community happiness. However, it should be noted that Ballas and Tranmer's (2012) study indicates that place attachment is also strongly influenced by the length of time individuals have lived in their current address.

Furthermore, several authors have shown that the *promotion of trust and participation* has a strong positive impact on one's perception of the environment (Negami *et al.* 2018, Quirk *et al.* 2021, Hong and Park 2021, Somarriba Arechavala *et al.* 2022). According to Shedid and Hefnawy (2021) and Glass *et al.* (2014), *multisensory richness* in the urban environment is also a significant factor that impacts urban happiness.

Other studies, such as those by Gutiérrez and Törmä (2020) and Chen and Zhang (2018), highlight the importance of *place identity and city image*: A positive place identity and city image can contribute to individuals' overall satisfaction with their environments, happiness, and it may attract more people to live in or visit the area. Moreover, the analyzed studies suggest that the *perceived quality of the urban space* or overall satisfaction of the urban space is a key factor in individuals' happiness in public urban spaces (Qiao *et al.* 2019, Weijs-Perrée *et al.* 2020, Mehaffy 2021). This includes the extent to which the urban space *meets an individual's needs and preferences* (Alvarez and Müller-Eie 2022) or the *balance between their daily primary needs and leisure needs*.

Political factors

The review found eight factors related to the political environment that contribute to urban happiness (see Table 1). Several researchers have emphasized the significance of *government strategies and policies* in creating happy urban spaces. Kühner *et al.* (2021) and Hong and Park (2021) highlight the importance of governmental interventions to ensure that urban spaces are designed in a way that promotes happiness. Pykett (2022) suggests that the *political economies* of place-based happiness interventions and the potential effectiveness of policy solutions can encourage the creation of happy urban spaces. Community-led physical and urban interventions have also proven effective in creating happy urban spaces (Anderson *et al.* 2017, Negami *et al.* 2018). By involving the community in the design and development of urban spaces, residents develop a greater sense of ownership and attachment to the space. *Social welfare services* have been found to play a crucial role in promoting urban happiness (Chen and Zhang 2018). These services encompass, for example, *mental health support*, *access to healthcare*, and *programs that foster social inclusion*. *Population density* is another factor associated with well-being in urban areas (Wang *et al.* 2022). While high population density can contribute to feelings of crowding and congestion, it can also provide opportunities for social interaction and community building. Additionally, Kwon *et al.* (2021) found that the *GDP level of a nation* can significantly influence happiness levels.

Personal factors

A final category of factors that influence a person's urban happiness is personal or individual (see Table 1). Personal factors are a symbol of individual life (Sadeghi and Jangjoo 2022) and include characteristics that are not mainly related to physical health but have a positive or negative effect on individual performance. According to Sadeghi et al. (2023), a person's behavior is influenced by personal factors, and personal factors also affect their behavior. One of these factors is an *individual's education*. Park et al. (2021) found that urban spaces (such as neighborhoods) with *young and well-educated residents, situated close to amenities*, tend to be happier. The *age composition* is another important factor. Park et al. (2021), and Kurian et al. (2019) found that the age composition of a place can significantly influence happiness levels, and they indicate the need to include *inclusion and democratic participation* as rights and norms of age-friendly cities. Other authors found an impact on urban happiness of one's health satisfaction. Ballas and Tranmer (2012), Mehaffy (2021), and Kent et al. (2017) all found that individuals with *higher levels of health satisfaction* tend to be happier in urban spaces. Other personal or individual factors that affect happiness levels in urban spaces include *income, employment status, personal freedom, having a partner, and perceived aspects of life*.

Interplay between identified factors:

The connection between identified factors and existing literature indicates an interplay between different factors. Also, the concept of urban happiness, situated at the intersection of social, environmental, economic, personal, ecological, and philosophical dimensions, remains intricately woven into the fabric of contemporary urban life. As cities undergo rapid transformations driven by shifting lifestyles, evolving needs, and cultural habits, the definition of urban happiness becomes increasingly complex (Sepe 2016).

Green pathways within urban environments significantly alter the aesthetics and emotional experiences of the surroundings. They hold considerable potential in shaping elements that directly impact mental well-being. These effects are attributed to various factors, including stress reduction (Kaplan 1995), improved mood (Ulrich et al. 1991), and enhanced physical health due to increased physical activity (Mitchell and Popham 2008). They contribute positively to overall life satisfaction (Bertram and Rehdanz 2015), as well as social well-being (Worpole and Knox 2008, Leslie and Cerin 2008). The availability of green routes and spaces enhances physical activity and social interactions (Matsuoka and Kaplan 2008, Lee and Maheswaran 2011). These benefits are associated with heightened social interactions, community cohesion, and a sense of identity. Moreover, numerous indirect factors significantly influence the level of happiness in public urban spaces. For instance, the confirmed link between the neighborhood's social environment and health and happiness is evident. Neighborhood safety, a sense of belonging with neighbors, and interpersonal trust all play a meaningful role in individuals' physical and mental well-being (Kent et al. 2017). Social deprivation resulting from inadequate transportation disrupts connections and diminishes the sense of neighborhood belonging, significantly impacting mental well-being and happiness (Ibid; Currie et al. 2010). Residents who inhabit pedestrian-friendly neighborhoods with diverse land uses tend to experience higher levels of happiness across specific dimensions. Such environments, when compared to car-centric street designs, foster social cohesion and create opportunities for recreational and serendipitous activities (Frank and Engelke 2001, Kent and Thompson 2014).

Compact urban forms significantly impact social dynamics within cities. There is an intricate relationship between urban density and social networks, emphasizing the augmentation of close interpersonal connections, increased social interactions with friends and family, and heightened social support (Mouratidis 2018). Walkability significantly impacts both the overall quality of life and individual happiness. The benefits associated with health resulting from physical activity and exercise, permeability, and improved access and opportunities for walking to meet daily needs, as well as mental health and some of the positive effects and outcomes of promoting walking on the quality of life and happiness of individuals (Rogers et al. 2011). Walking and the importance of the third place (informal gathering places that are not home or workplace) are related to social capital and happiness and quality of life (Rogers et al. 2011).

The findings of studies by Yong and Jinxia (2013) demonstrate that cycling has significant social and psychological effects on individuals' health. The joy experienced by cyclists has at least three sources: a direct impact on leisure time and recreational benefits, as well as an indirect influence resulting from participatory engagement through recreational advantages (Rogers et al. 2011, Yong and Jinxia 2013). Regarding the political aspects, government policies and urban planning strategies can impact the availability and quality of ecological factors in public spaces (Gutiérrez and Törmä 2020). Upon reviewing the identified studies on happy urban public space, it can be concluded that urban happiness is a multifaceted and intricate construct. To fully grasp the interplay between happiness and urban spaces, a holistic and interdisciplinary approach is required. Despite the acknowledged significance of urban spaces in influencing citizens' happiness, there is a gap in the literature. An integrated methodology could elucidate the

influence and proportion of each urban space aspect and type on urban happiness, as well as the interrelationships and impact levels among these concepts.

Urban environments that are well-designed, accessible, and equipped with diverse physical infrastructures, and that align with the varied needs and desires of societal members, can stimulate physical activity (such as walking, biking) and social and cultural engagement. This can foster a sense of community, a desire for presence in the space, positive experiences, and ultimately, an enhancement in citizens' happiness. Moreover, ecologically friendly environments can serve as restorative environments. Numerous studies highlight the reciprocal relationship between ecological spaces and happiness perception, stress reduction, increased social interactions, physical activity, and the creation of aesthetically pleasing visual environments, all of which contribute to happiness. Furthermore, multifunctional environments that house business centers, restaurants, community event spaces, retail and service outlets, commercial establishments, hospitality venues, and cultural and artistic spaces within the same public areas, attract diverse individuals and activities. This diversity fosters social interactions, builds social capital, engenders societal trust, and creates dynamic urban spaces, all of which enhance the quality of urban life and promote happiness in urban spaces.

Urban public spaces serve as platforms for social interactions and cultural and social events. Therefore, societal policies can facilitate access to urban spaces for a diverse population, bolster social trust, and influence collective happiness. Additionally, individuals with varying personal factors may perceive and experience urban spaces differently.

Overall distribution of studies

This section provides some general insights into the publishing landscape of studies investigating urban happiness. It provides an overview of the key journals that publish studies on urban happiness, the geographic distribution of the studies reported in the 57 papers analyzed, as well as the typology of public spaces examined in the field.

Journals Publishing Studies That Investigate Urban Happiness

Table 2 provides an overview of the journals that published the 57 papers included in the literature review. This overview gives an impression of the journals that publish studies focusing on the concept of happiness in urban spaces. Most papers were published in the International Journal of Environmental Research and Public Health (five papers), followed by Urban Design International, International Journal of Community Well-Being, and Sustainability, each with

three publications. These can be considered the most prominent active journals in this area.

Next, we reviewed the frequencies of the identified factors across databases. As shown in Figure 2, subjective, social, functional, visual, and personal factors were primarily examined in the Springer database, while ecological factors were mainly evaluated in the Sage and MDPI databases. Built-environmental and political factors were primarily mentioned in the Taylor and Francis database.

Geographic location of sample studies

Next, we examined the location of the studies reported in the 57 papers in the review. The results, as shown in Figure 3, indicate that the majority of the reviewed studies (22.8%) were conducted in China. Notably, studies in this region primarily focused on recreational activities and places and their role in promoting happy urban spaces. Additionally, a significant number of studies explored the influence of green spaces and parks on citizen happiness. The United Kingdom emerges as the second highest contributor (8.77%) of published papers, with research centered on social participation and collective events, social and playful experiences, and small-scale community-led urban design interventions. Researchers in this region primarily explored the impact of social dimensions of urban spaces on citizen happiness.

Typology of urban public spaces

Next, studies were categorized based on the type of urban space under examination to identify patterns, research gaps, and areas requiring further investigation. The typology encompasses various urban spaces at different scales, including local and metropolitan levels. *Neighborhoods, communities, and their associated public spaces* are the most frequently studied type of urban space, accounting for 36.84% of publications. The second most studied type of urban space is *green spaces*, due to their physical and mental health benefits, social interaction enhancement, and direct impact on perceived happiness. Furthermore, a significant number of studies (14.3%) explored the factors affecting happiness in parks. *Public squares* (7.01%), *recreational spaces* (5.26%), and *blue urban spaces* (such as rivers) have also been explored in terms of their impact on citizen happiness. Additionally, *streets* such as food streets, pedestrian streets, and bikeable streets have been studied for their potential to enhance citizen happiness in urban spaces. One study has explored the happiness in all types of urban spaces (e.g. park, square, city center, shopping center). Also, some studies (14.3%) did not specify the type of urban space studied but stated that the research was conducted at the public urban spaces scale (see Figure 4).

Table 2. Frequency of publications.

Number of publications	Journal
5	International Journal of Environmental Research and Public Health
3	Urban Design International
	International Journal of Community Well-Being
	Sustainability
2	Cities & Health
	Scientific reports
	EPJ Data Science
	Journal of Happiness Studies
	Urban Studies
1	Environment and Behavior, Health & Place, International Regional Science Review, and etc.
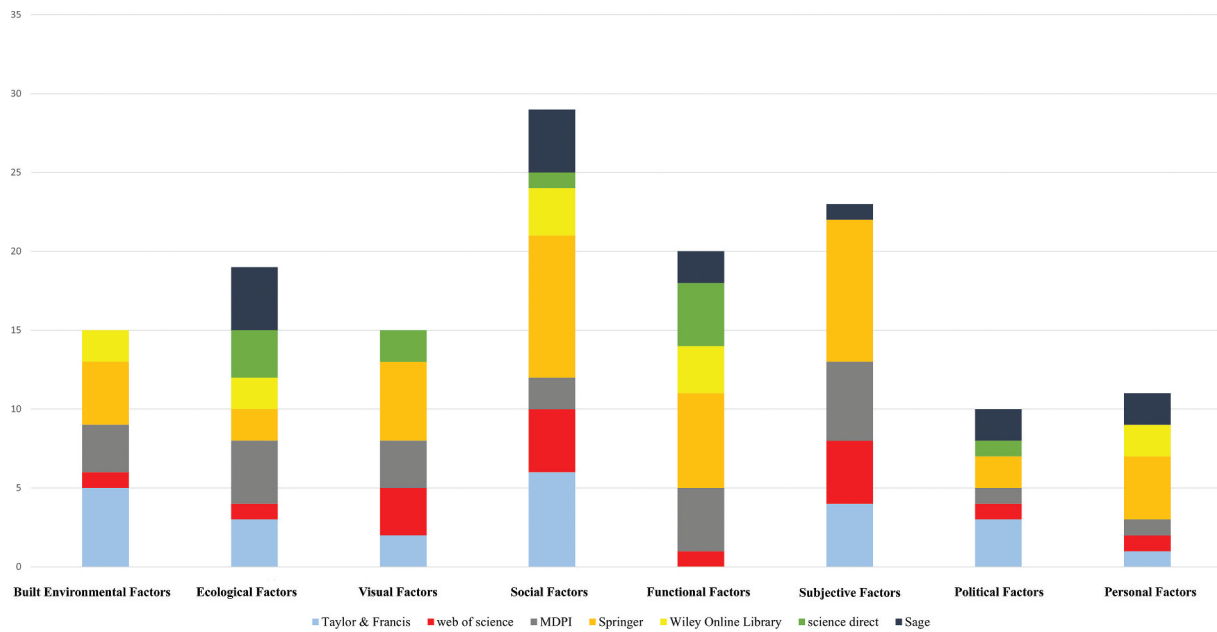
Figure 2. Frequency distribution of identified factors in various categories across databases.

Typology of methodology approach

The majority of the papers examined in our systematic study (40 out of 57) employed quantitative research methods (Figure 5). Additionally, our review included 10 papers that reported qualitative studies, and seven that reported studies that employed mixed methods. The study designs encompassed a diverse range, including empirical studies, surveys, experimental investigations, observational analyses, and cross-sectional examinations.

Typology of happiness measurement within studies

The majority of the reviewed papers assessed happiness through self-reported measures and satisfaction using Likert scales with varying response options (ranging
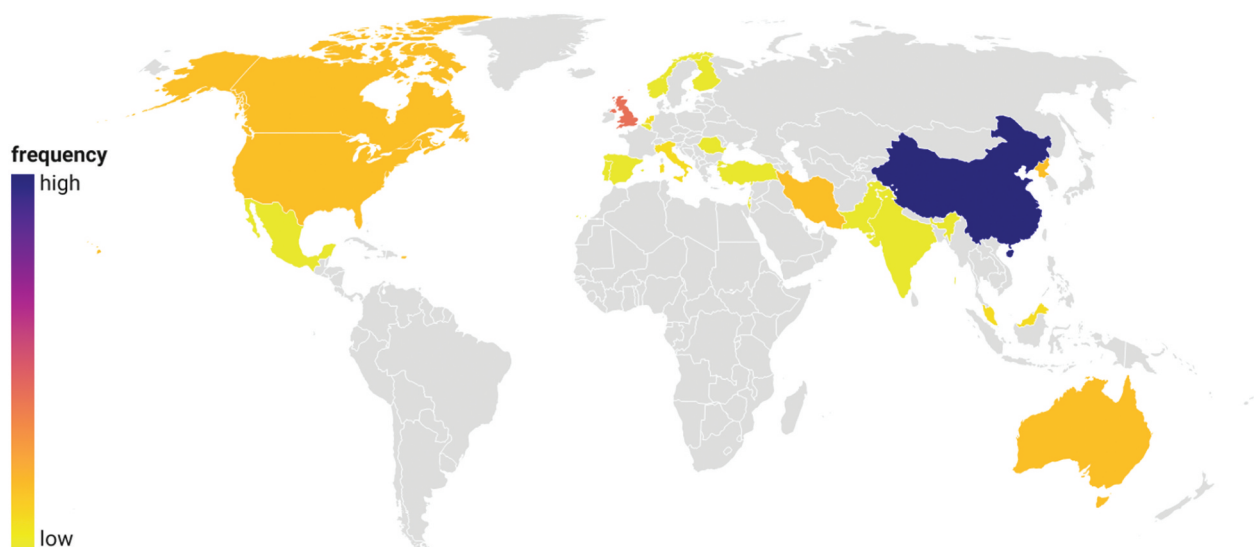
Figure 3. Geographical distribution of analyzed studies and their frequencies.

Figure 4. Frequency of variety of public space typology.

Figure 5. Typology of methodology approach.

from 4 to 11). Among the 57 studies, 11 measured happiness or satisfaction with life based on self-reported happiness on a 5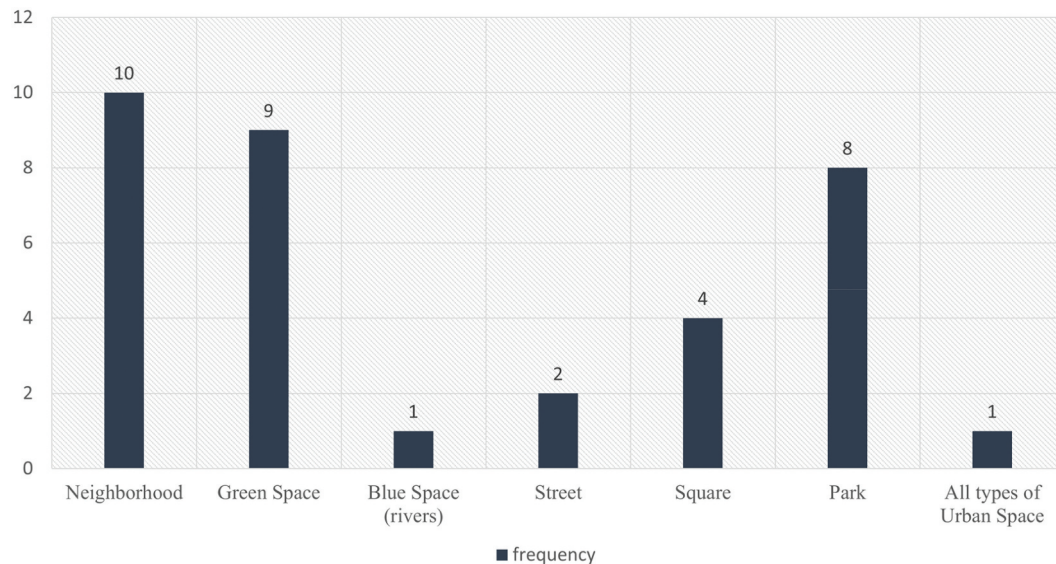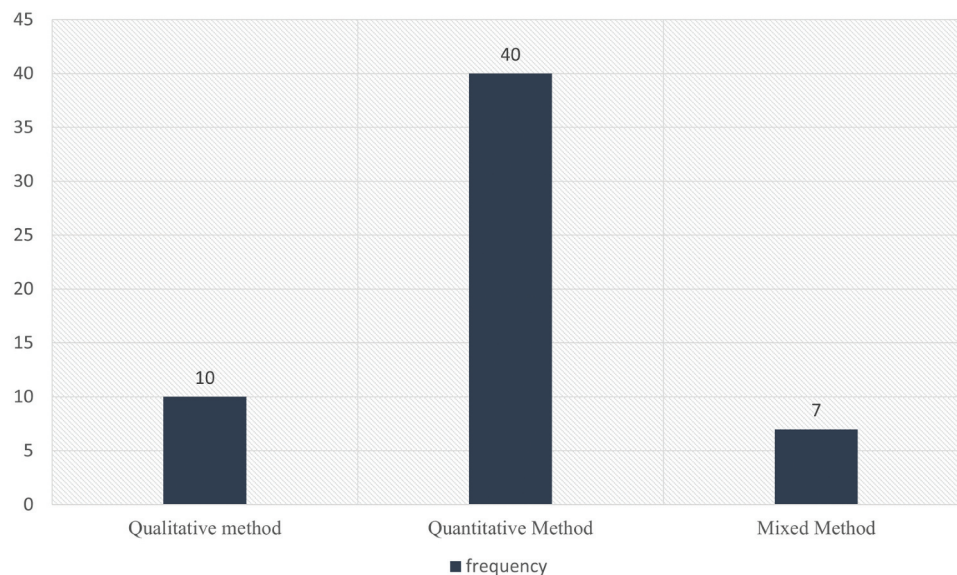-point Likert scale (e.g. Cheng 2020, Kühner et al. 2021, Lin et al. 2022), and 5 used a 10-point scale for happiness measurement (e.g. Kurian et al. 2019, Hong and Park 2021). Additionally, one study employed the Mappiness app to gauge citizens' happiness (Seresinhe et al. 2019), while another investigation analyzed facial expressions associated with happy and sad emotions (Zhang et al. 2021). Furthermore, three studies utilized Twitter data as a source of information (Roberts et al. 2019, Schwartz et al. 2019, Park et al. 2021).

Within the temporal context, seven scholarly inquiries have concentrated on assessing the momentary happiness experienced by individuals (e.g. Mourão et al. 2019, Weijs-Perrée et al. 2020, Su et al. 2022), whereas other studies focussed on the overall or long-term levels of

happiness in the study population (see Supplementary Appendix 2).

Conclusion

The systematic review reported in this manuscript offers a comprehensive overview of research on happiness in public urban spaces. Relevant studies were identified and screened following the PRISMA guidelines The review identified 57 manuscripts that reported studies employing quantitative-based, qualitative, or mixed investigation methods. These studies were categorized and analyzed, identifying 64 factors influencing happiness in urban spaces. These factors encompassed eight dimensions, including Built, Ecological, Social, Functional, Visual, Subjective, Political, and Personal factors. *Neighborhoods, communities, and their associated public*

spaces, green spaces, and parks are the most frequently studied types of urban spaces. As shown in Figure 3, the majority of the reviewed studies were conducted in China. Notably, studies in this region primarily focused on recreational activities and places and their role in promoting happy urban spaces.

Regarding the happiness dimensions in urban public spaces, most of the articles focused on the social dimension (e.g. safety and security, vibrant and diverse social interactions factors) and the subjective dimension (e.g. satisfaction with the overall quality of urban space, trust, and participation factors) of happiness in urban public spaces.

In conclusion, despite the extensive research and growing interest in the study of happiness within contemporary societies, the investigation into how various aspects of urban public spaces contribute to individuals' happiness remains relatively unexplored. Furthermore, there is a cohesive perspective on the integration of diverse dimensions and variables of urban public spaces in influencing happiness. This review contributes to the field of urban happiness research in several ways. Firstly, it provides an overview of existing studies. Secondly, it introduces a comprehensive framework for categorizing factors that influence citizen happiness in public open spaces. This framework can inform future research. Thirdly, the review offers a timely discussion on the impact of public space indicators on happiness, which can guide urban planning and design decisions. In addition to supporting knowledge development, this study can also inform design interventions. To facilitate the practical application of the framework, we developed an inspiration booklet titled 'Happy Public Spaces'. This booklet, featuring 20 urban happiness ingredients (Samavati and Desmet 2022), aims to raise awareness about the happiness impact of public space design decisions. It provides descriptions, key references, tips for measurement, and inspiring example images. Figure 6 showcases two example pages from the

Policymakers and urban designers are recommended to prioritize high-impact factors that contribute to happiness and focus on implementing policies and design approaches aimed at enhancing connectivity, accessibility, and walkability in urban public spaces. Connectivity plays a crucial role in enabling individuals to satisfy their needs and desires. Improving the presence of greenery in urban public areas, such as enhancing the quality of city parks, provides individuals with spaces where they can relax and enjoy nature. This offers opportunities to experience natural scents like wood, grass, and sea, as well as direct contact with locally sourced natural materials incorporated into the space's design.

It can also be suggested to promote community involvement, safety, and overall satisfaction with urban public spaces. This involves the development of governmental strategies, policies, and community-driven initiatives. Public spaces need to be designed with flexibility to accommodate various programs and events, adapting to evolving needs and future decisions by offering a versatile range of options tailored to different contexts and environments. Engaging local communities in the planning and construction of public spaces fosters a sense of belonging and connection, ultimately contributing to increased levels of happiness. Table 3 provides guidelines for urban planners and urban designers to be considered in urban public spaces.

While a growing body of research exists on various aspects of happy urban public spaces, significant gaps in our knowledge still remain. An example is the lack of longitudinal studies exploring how happiness derived from urban public spaces changes over time. This includes both momentary experiences and long-term happiness influenced by factors such as urban development or climate change. Furthermore, the experiences of vulnerable populations, including people with disabilities, migrants, the elderly, children, and those from socio-economically disadvantaged backgrounds, are not well understood. Additionally, there is a gap in our understanding and evaluation of happiness in public spaces across different cultures.

While the role of the urban environment in influencing happiness is recognized, there is limited discussion on how the design of these spaces impacts happiness at both the individual and community level. Moreover, there is a lack of understanding regarding the interactions between various factors that contribute to happiness.

Despite the wealth of research, a comprehensive understanding of how different types of public spaces impact citizen happiness is still lacking. Furthermore, it remains unclear whether happiness levels vary among different types of urban spaces. For example, is the effect of green spaces on happiness similar to that of urban parks or streets? Answering these questions is essential for designing urban spaces optimized for promoting happiness and well-being, as well as for making informed decisions regarding resource allocation for public spaces in urban areas. Overall, this systematic review underscores the importance of public open spaces in promoting happiness in urban areas. It provides insights for policymakers, urban planners, and designers to enhance social connections, promote physical activity, support evidence-based policymaking, and create more livable cities that prioritize citizen well-being and happiness.

Limitations and future research

While this systematic review provides a comprehensive overview of the research on investigations into happy public spaces, it is important to acknowledge some limitations. Firstly, the factors influencing happiness in urban spaces, as identified in the analyzed studies, may partly overlap and are not

Figure 6. Example pages from the "Happy Public Spaces" inspiration booklet (Samavati and Desmet 2022).

Table 3. Urban planning and urban design guidelines.

Enhance connectivity, accessibility, mobility	Walkable, cycle paths, access to public transportation and commuting time
Greenery	Enhance access to elements of nature and landscape, usually with recreational or ornamental character.
Provide mixed land use	including centers for business, restaurant, space for local community events, retail and services, commerce, hospitality, art and culture in the same public spaces.
Incorporate playful and interactive design	designing active facades (or building edges with more shops, services and opportunities), street games, public arts and movable furniture.
Environmental comfort	Minimize air pollution, noise level and maximize environmental comfort, in which human feels satisfied within outdoor microclimate and spatial-temporal urban setting in a particular local context
Promote bicycling	create safe and dedicated bicycle lanes. Ensure connectivity to key destinations. Provide bicycle parking spaces. Incorporate bicycle-sharing programs.
Walkability	Design pedestrian-friendly streets with wide sidewalks, crosswalks, and traffic calming measures. Prioritize connectivity to encourage walking.
Provide friendly urban Furniture	including benchmarks, sitting places, edges, lightening, public art and etc., Urban furniture should be located in places that maximize use to arise happiness
Hygiene and waste management	Implement effective waste management systems. Provide easily accessible and clearly marked waste disposal units. Regular cleaning schedules can help maintain hygiene.
Well-designed urban space	Create spaces that are adaptable and flexible, allowing users to modify the space according to their needs and preferences. This can enhance place attachment and urban happiness.
Place-Based promotion of happiness	Involve the community in the design and development of urban spaces.
Public art	Connecting to our living environment through enjoying public art, murals, sculpture, memorials, integrated architectural or landscape architectural work, community art, digital new media, games, and even performances that can bring a smile to a person's face.
Frequently of park visit	Design parks and green spaces in accessible locations to encourage frequent visits. Regular maintenance and safety measures can also increase usage.
Visual aesthetic qualities	Pay attention to the visual appeal of the urban space. This includes the design of buildings, street layout, and the inclusion of art and greenery
Equality and diversity	Ensure that urban spaces are inclusive and accessible to all, offering everyone opportunities to enjoy and use public space in diverse ways. regardless of age, gender, ability, or socio-economic status.
Adoptability and flexibility	Design spaces that can be easily adapted for different uses, allowing for flexibility as the community's needs change.
Social environment	Foster a sense of community by providing spaces for social interaction. This could include public squares, community centers, and cafes.

always mutually exclusive. There may be interconnectedness and interdependencies among these factors, making it challenging to isolate their individual effects. However, despite this potential overlap, we believe that the value of these identified factors lies in their ability to demonstrate the broad landscape of influences on urban happiness. They provide a comprehensive view of the diverse elements that contribute to citizen well-being in urban spaces. Future research can delve deeper into understanding the relationships and interactions between different factors influencing urban happiness. This can involve refining and categorizing factors into more specific dimensions or subcategories, allowing for a more nuanced analysis of their individual contributions.

Secondly, the research was limited to articles written in English, which may have excluded relevant studies published in other languages. To address this limitation, future studies could consider including literature written in various languages to ensure a more diverse and inclusive analysis. This limitations could be addressed in future research.

This systematic review has identified several directions for future research on happy urban spaces. Firstly, further investigations could explore the relationship between different factors and citizen happiness, with a specific focus on the relative importance and weight of each factor. Future studies could use advanced statistical techniques to identify the most significant predictors of happiness in urban spaces. This would provide valuable insights for policymakers, urban planners, and designers to prioritize interventions that have the greatest impact on citizens' well-being. Secondly, using mixed-methods, future studies could capture both subjective and objective aspects of Urban Happiness, leading to a more comprehensive and nuanced understanding. This holistic approach can provide a deeper insight into the complex dynamics and factors influencing happiness in urban spaces.

Furthermore, most existing research on the relationship between urban environments and happiness is cross-sectional, providing only a snapshot of this relationship at a specific point in time. To establish causality, there is a need for longitudinal studies. Experimental studies serve as the most reliable method to establish a causal link between the urban environment and happiness. These studies could explore the impact of various factors such as urban noise, air quality, physical activity, and social isolation on citizens' happiness or cognitive performance. However, the execution of such studies is often challenging and costly. Further research should investigate how personal differences influence the relationship between the urban environment and happiness. For example, certain individuals may be more susceptible to the effects of the urban environment than others. Moreover, further investigations could explore the relationship between different factors and citizen happiness, with a specific focus on the relative importance and

weight of each factor. Advanced statistical techniques could be used to identify the most significant predictors of happiness in urban spaces.

In addition, further research can aim to uncover the mechanisms through which urban spaces impact the happiness of citizens, thereby informing the development of policies and strategies aimed at improving the quality of life in urban areas. Finally, longitudinal studies can track the changes in the factors affecting citizen happiness in urban spaces over time. This would provide insights into the dynamics of happiness in relation to urban development, enabling the formulation of long-term strategies for urban planning and design that promote sustainable happiness.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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