Article

Health and the Urban Environment: A Bibliometric Mapping of Knowledge Structure and Trends

Taylor Van Winkle, Zeenat Kotval-K *, Patricia Machemer and Zenia Kotval

School of Planning, Design & Construction, Michigan State University, East Lansing, MI 48824, USA
* Correspondence: kotvalze@msu.edu; Tel.: +1-517-353-5460

Abstract: The literature on the urban environment and physical and psychological health has steadily increased over the last decade. This paper aims to offer a better understanding of the state of the literature on assessing the urban environment and mental health by mapping the field of research through a scoping review and illuminating emerging trends and future research using bibliometric analysis. Uniquely, this study drew 495 articles from four distinct journal databases (PubMed, Scopus, Web of Science, and ProQuest), whereas traditional bibliometric analyses draw from a single source. The results show trends of a consistent increase in research on the topic over the last decade. Research published on this topic is fragmented with a consistent but isolated focus on physical health, mental health, and environmental characteristics. Overall, most attention has been given to assessing the impacts of urban environments on physical activity and general health, while less research has focused on mental health assessments and urban environments. This study concludes by highlighting gaps and making recommendations for future research in the field. Prominent gaps are related to using interdisciplinary and scalable approaches to understanding the relationship between urban environments and mental health.

Keywords: urban environments; mental health; well-being; bibliometric analysis; green space

1. Introduction

By mid-century, 68% of the projected global population is expected to live in urban areas [1]. Urbanization will need to expand and adapt to safely accommodate the estimated 6.7 billion global residents by 2050 [2]. As has been seen over the last few decades in developing countries that quickly increase urbanization to account for increasing urban populations, urbanization can have deleterious impacts on the health of residents and the environment in the form of pollution, traffic accidents, climate change, and social unrest [3,4]. Faced with the challenge of increasing urban populations, the charge of municipalities in promoting public health will continue to grow in urgency, as even today just under one in four deaths are caused by unhealthy environments [5]. The built and natural environments of urban areas fall within the purview of municipalities, and the connections between the built and natural environments and physical and psychological health are extensive and complex [6].

The preponderance of global health initiatives promoting 'healthy cities' indicates an international political recognition of the importance of the influence of urban environments on public health, such as the World Health Organization's "Healthy Cities Initiative," Bloomberg Philanthropies' "Partnership for Healthy Cities," and the USAID's "Build Healthy Cities" program [7–9]. The relationship between the built environment and physical health has been long studied from a variety of perspectives ranging from physiology to public health to sociology. Primarily, the measurable intersection between the built environment and physical health has been the use of urban spaces, such as physical activity in parks or the walkability of a neighborhood. Extensive research has shown a positive

relationship between physical activity in urban spaces, such as parks, and increasing beneficial physical health attributes, such as cardiovascular health, increasing social capital, lowering body weight, lowering depression reports, and reducing alcohol abuse [6,10]. Additionally, numerous studies have shown that walkable neighborhoods, which are characterized by dense land use and well-connected public transportation, have been connected to a reduction in coronary heart disease, obesity risks, and other detrimental health conditions [10–13]. The built environment has a well-established impactful connection to public health, especially physical health.

The positive impacts of physical health extend to mental health as well, with studies showing strong cross-effects between physical and mental health, and physical activity even being used as a preventative and retroactive treatment for depression [14,15]. The built environment has the potential to impact physical health both positively and negatively, underscoring the importance of intentioned planning and policy efforts that integrate a health perspective. Mental health is a multi-faceted issue with no one driving force but instead with many contributing factors influencing the mental health of an individual. Studies have shown that risk factors, such as stress, relationship conflict, socio-economic changes, and even cultural components, can negatively influence the mental health of youth, while connectedness, social supports, and cultural richness have been shown to be protective factors against the development of mental health issues [15]. Additionally, certain aspects of urban areas can negatively impact mental health and psychological states; for example, crowds, noise pollution, and dangerous settings can promote stress, anxiety, depression, and even violent behavior [15].

While extensive research has been performed examining the relationship between physical activity, health, and urban space such that it has influenced public polices since the late 1990s in the United States, the relationship between urban space and mental health has been understudied [16]. In light of the mental health crisis caused by the recent global pandemic which called for the public to participate in mass quarantine in their homes with limited use of urban areas excepting urban green spaces, the relationship between mental health and the built environment is extremely relevant to the general public and research today [17]. Therefore, the aim of this paper is to examine the nature of the relationship between urban spaces and mental health by examining the state of the literature on the topic. This research aims to clearly assess the state of the current research, analyze the direction of the field and the factors and components of a popular study in this field, and identify research gaps for researchers in the field of urban planning.

2. Materials and Methods

To answer the research question on the nature of the relationship between urban spaces and mental health, a scoping review was initially performed to collect relevant articles. This study conducted a scoping review of articles scanned from PubMed, Scopus, Web of Science, and ProQuest on urban environments and health for journal articles published in English and from the years 2010 to 2021. The final keyword selection resulted in ten search terms in urban environments (built or physical or urban and environment; urban design; urban form or urban morphology; garden or park; green space; walkab*; thermal comfort and acoustic comfort; urban planning; public space; urban mobility) and four in health (cognit*; mental health; emotion; psychological) and returned 6902 articles. After removing irrelevant articles and duplicates, we were left with 495 articles to include in the review. These articles are considered representative of the existing literature on the intersecting topic of the urban built and natural environments and mental health, especially since the scope involved multiple databases and the final set of articles (495) is representative of the field with 95% confidence and with 5% intervals. The breadth and quantity of articles offer a dataset that allows for more connections to be drawn regarding the state of the literature.

2.1. Measurements

2.1.1. Scoping Review and Topic Analysis

To answer the research question, this study first performed a scoping review which provided results broadly describing the nature of the relationship between urban space and mental health and well-being. The review results were tabulated in an Excel table where the following information was extracted from each article: theory, data source, variables, analyses conducted, results, and limitations. Descriptive statistics show the result of this process.

2.1.2. Publication Trends

The journals (n = 195) and the author affiliations (n = 500) of all the articles in the dataset were extracted and processed into research fields. If the title of the journal did not reveal the research field alone, then the journal's online description was used to identify the field. In a similar fashion, the author affiliations were made based on their author information in the articles themselves. If the department information of the author was not sufficient to identify the author's affiliation with a research institute or field of study, their online biographies were used. If no biographies were found, they were excluded from this analysis.

2.1.3. Keyword Extraction

To better understand the numerous factors and components in the studied relationship between urban spaces and mental health, a keyword extraction was performed. Keyword extraction can be performed on any collection of texts, such as scientific articles, news, or even social media posts. This study utilized articles that were used in the review/meta-analysis. In this study, an independent document-based approach is applied to keyword extraction. In this approach, the keywords are extracted from each document without considering keywords from other document collections. The process of keyword extraction applied the keyword processing software Cortical.io to each abstract. The keywords extracted from Cortical.io were compared to the original keywords listed in the articles (often chosen by the article authors themselves) and were found to be similar yet contained nuances (particularly in regard to analytical method types, but this can be attributed to the use of only the abstracts and not the entire article). The keywords were then added to the article database manager from which an RIS file was extracted to then be used for further analysis. Subsequently, plural duplicates (i.e., parks and park) were removed, alternative English spellings (i.e., neighbourhood for neighborhood) were accounted for, and variants of the same root word (i.e., pollutant and pollution when both occurred in the same extraction) were removed from the keywords extracted.

2.1.4. Bibliometric Analysis

After extracting the keywords from the reviewed articles and identifying leading topics in the research area, the relationships between those topics was examined using bibliometric analysis. As a statistical method, bibliometric analysis is used to better understand the temporal changes and trends in given literature bases through systematic analysis. Bibliometric analysis uses software to create network diagrams based on a given dataset. Typically, the analysis is performed on a co-citation nexus, keyword linkages, and/or co-author associations. Diagrams display the strength of connections amongst articles based on the chosen dataset, allowing researchers to visualize and measure the impact of various trends in the literature. Bibliometric analysis assists researchers in identifying the current state of the literature and existing gaps in the knowledge base to pursue for future research to expand the field.

The keywords extracted from the previous step were then fed into VOSviewer for bibliometric analysis. VOSviewer is a Java application that analyzes and visualizes bibliometric networks. Bibliometric visualization software applications can provide information on major thematic focus areas. Additionally, these applications can be used to better grasp

the intricate interrelationships between various underlying components of a given research field through tables and network maps. The applications can analyze a dataset of articles for several factors, including term co-occurrence, citation, co-citation, and bibliographic coupling relations [18].

By sourcing articles from several journal databases, each of which has a different composition of data found in their available citation information, there were limitations to the extent of the bibliometric analysis that could be performed. However, using data from various journal articles offers a more holistic examination of the state of the literature on a given topic. VOSviewer was used primarily to conduct term co-occurrence analysis. Term co-occurrence analysis identifies frequently co-occurred terms and thematic groupings that create an intellectual basis in the given field [18].

3. Results

3.1. Scoping Review

The following information was extracted from each article: theory, data source, variables, analyses conducted, results, and limitations. All information was then categorized into similar topics and themes. The following figures summarize the main results of this review.

3.1.1. Theories Utilized

In total, approximately 105 theories were mentioned by 180 different articles. Figure 1 shows the frequency distribution of the theories mentioned. The "other" theories mentioned included Appleton's prospect-refuge theory, socio-ecological theory, and the theory of planned behavior which were each mentioned approximately 2% of the time.
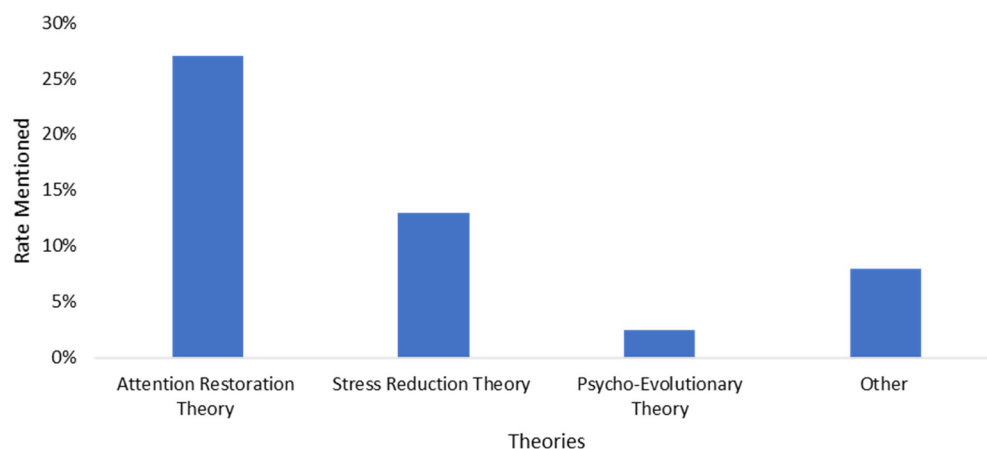
Figure 1. Frequency of theories mentioned in the literature examined (n = 105).

Overall, the theories extracted in this review are seminal works in the field of psycho-evolutionary theory and the environment, each providing the foundations for subsequent theories. The first proposed in 1975 by Appleton, a geographer, was the prospect-refuge theory (PRT) which states that human preference for landscapes derives from feelings of safety and pleasure in environments that offer both expansive views as well as a sense of enclosure [19]. Fundamentally grounded in evolutionary theory, PRT explains human environmental preferences as a desire for survival.

In 1981, Ulrich proposed the second most common theory found in the literature review, stress reduction theory (SRT) which is a psycho-evolutionary theory that states that natural settings facilitate recovery from stress in humans, while conversely, urban environments increase physiological and emotional stress responses and reduce stress recovery [20]. The most mentioned theory in the papers reviewed, attention restoration theory (ART), was proposed by Kaplan and Kaplan in 1989 and states that time spent

in restorative environments can help increase and restore concentration and attention in individuals [21].

Nearly a decade after proposing stress reduction theory, Ulrich et al. (1991) developed a new psycho-evolutionary theory combining key features from other theories: stress recovery theory [22]. Stress recovery theory postulates exposure to nature combined with an initial positive affective response results in restorative physiological and psychological responses, such as a broad shift towards positive emotions, positive changes in activity levels in physiological systems (cardiovascular and endocrine), and high levels of sustained attention [22]. While all the theories are psycho-evolutionary in nature, stress recovery theory is more grounded in physical (voluntary and involuntary) stress reduction responses, while attention restoration theory focuses primarily on psychological (voluntary and involuntary) responses that promote attention rejuvenation. While the theories have nuanced differences, both focus exclusively on primarily internal systems and influences on psychological responses.

Diverging from the biological and psychological systems influencing behavior and emotions, the theory of planned behavior (TPB) was a psychological theory promoted by Icek Ajzen in 1991 [23]. Overall, TPB explains behavior as a willful decision based on one's attitude, subjective norms, and perceived behavioral control which can all vary between individuals, environments, and societies. Approaching psychological responses and behaviors from an even broader perspective, socio-ecological theory was popularized in the 1990s and posits that humans are at the center of a complex system, wherein their behaviors are influenced by wider socio-economic, cultural, and environmental systems in which they live; essentially, individuals' decisions are not solely dependent on individual characteristics or personal responses [24].

Overall, the theories strive to explain the driving forces behind the relationship between human beings and their interactions with the environment. Some theories prioritize the internal biological and evolutionary systems behind psychological responses as the driver of behavior, while other theorists explain behavior as a process influenced by social systems and perceptions of social systems. Each theory can offer insight into the intricate relationship between the built environment and well-being.

### 3.1.2. Data Sources Listed

Articles could list more than one data source, therefore, approximately 580 data sources were listed in the literature examined (Figure 2). Overall, secondary data was more commonly used than primary data in the literature.
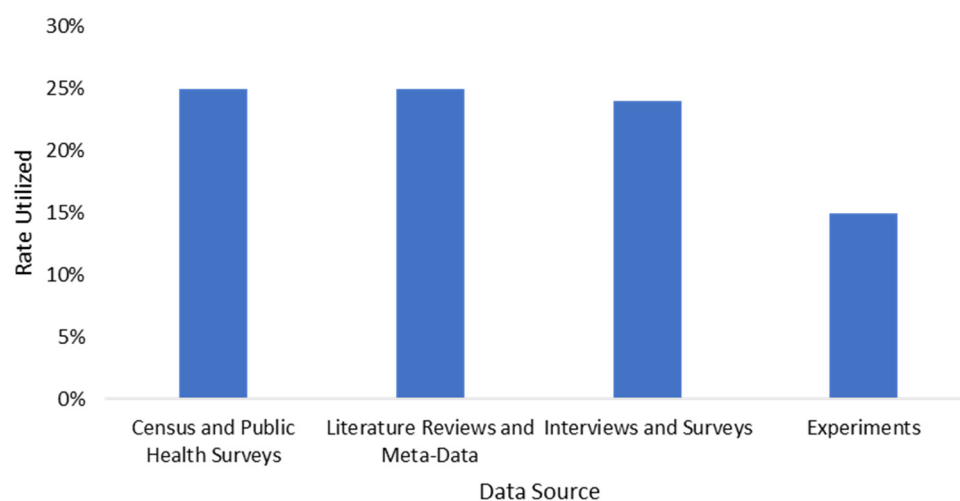
Figure 2. Frequency of data sources used in the literature examined (n = 580).

3.1.3. Variable Categories

Overall, there were 119 categories identified for over 1400 variables identified in this scoping review. Variables were extracted from the research questions presented in each study. The extracted variables were then processed into more inclusive categories by topic. The 10 most frequently found variable categories in the scoping review represented 60.4% of all variables extracted (Figure 3).
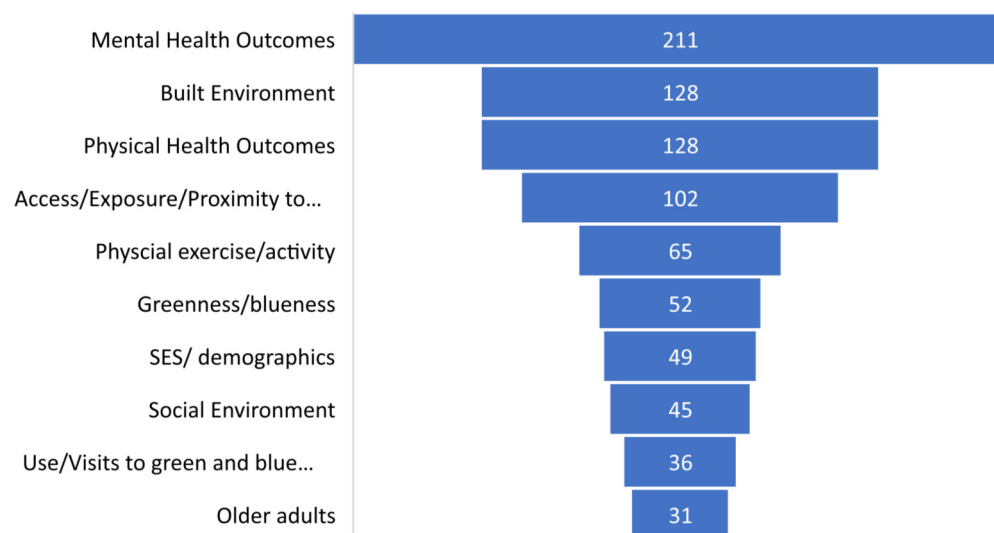
Figure 3. Frequency of extracted variables by subtopics in the literature reviewed (n = 847).

### 3.1.4. Variable Relationships

Since results could fall within more than one category, the dataset contained a total of 611 results divided into 21 relationships categories (Figure 4). The main relationships occur across and between five main topics: green space, mental health, physical health, the built environment, and social health. The majority (52.6%) of the significant relationships were positive in nature. While negative relationships were only found less than 10% of the time, which was narrowly beaten by inconclusive findings (11.4%), the relationship found most frequently was the one between green space and mental health, representing 34.6% of all relationships found.
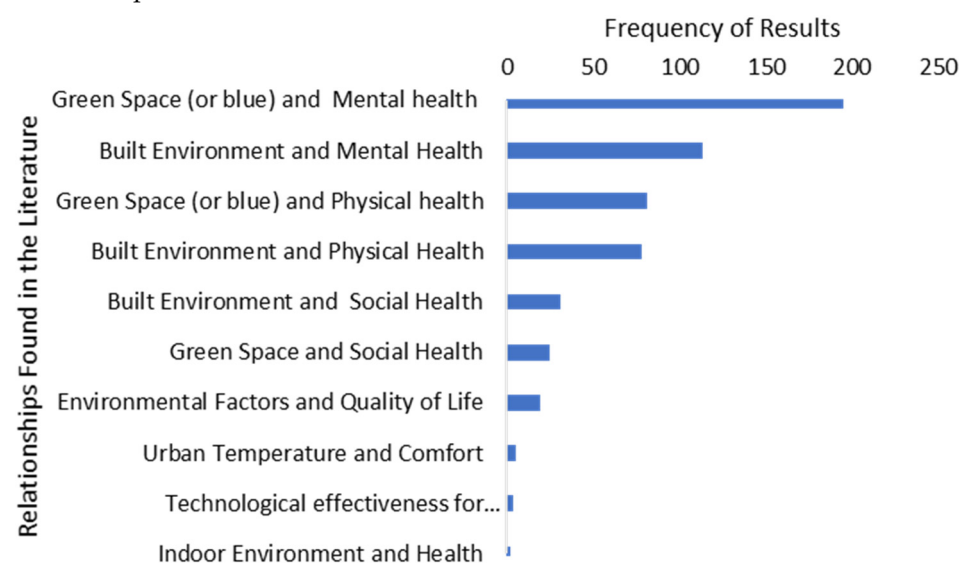
Figure 4. Frequency of the 10 most common relationships found in the results of literature reviewed (total number of relationships found = 611).

3.1.5. Common Limitations Found

In the literature examined, 450 articles reported limitations which fell within 10 categories (Figure 5). The limitation mentioned most often at 20% were regarding the methodological limitations.
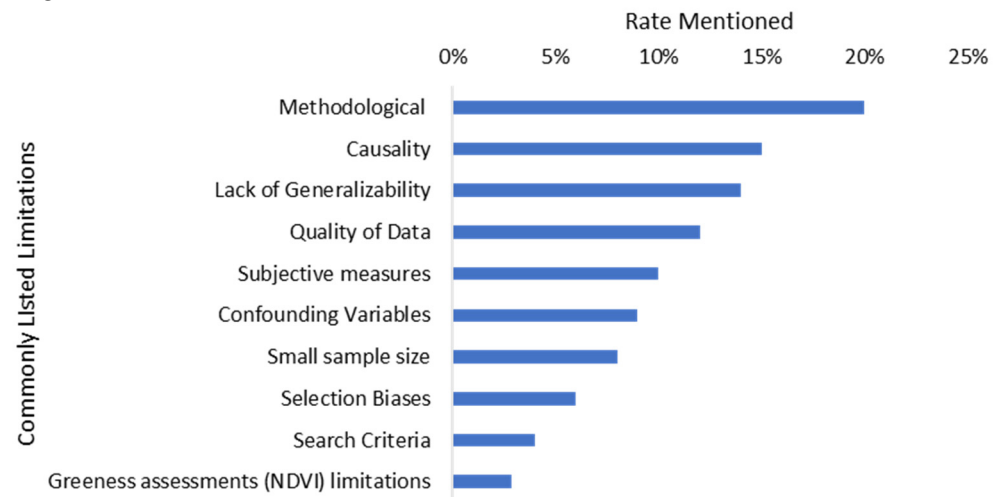
Figure 5. Frequency of the limitations mentioned in the literature examined (n = 450).

3.2. Publication Trends

The study period (2010–2021) has seen steady growth in publication trends (Figure 6). Between 2010 and 2015, the average annual number of publications was 24.3. In 2015, the number of annual publications was twice the number published in 2010. Additionally, between 2016 and 2020, the average annual number of publications was 53.4, quadrupling the number of publications in 2010. The regular growth in the number of publications could be explained by the increasing acknowledgement of the importance of the relationship between urban space and public health. The normalization of mental health illnesses and treatments mirrors the increasing rate of publications in this field over the last decade.
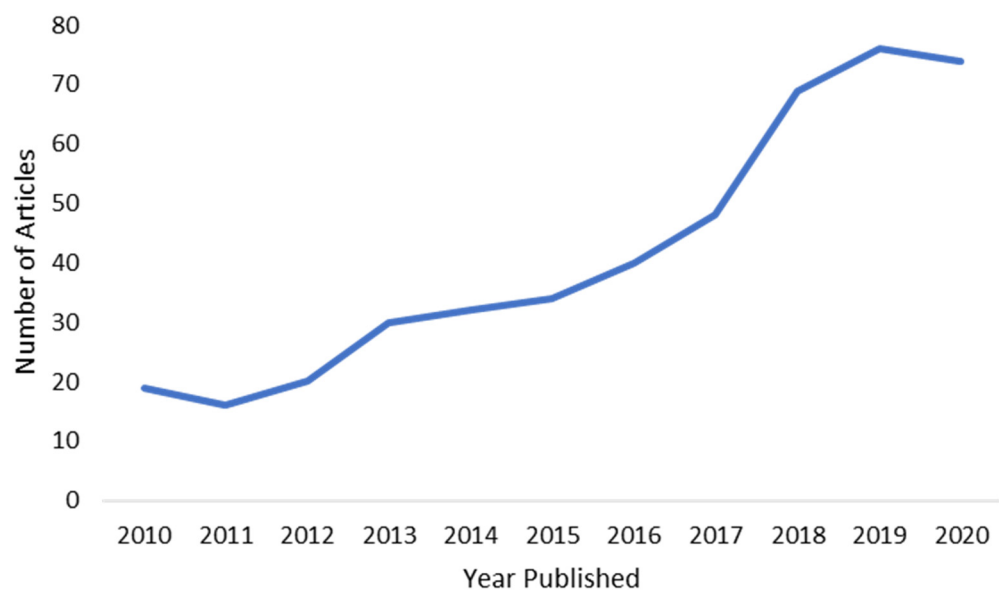
Figure 6. Publication trends for 2010–2021. Note the smaller number of articles in 2021 than in 2020 because the literature search was performed in early June of 2021. Overall, the consistent growth trend is expected to continue into 2022.

3.2.1. Journal Publication Trends

The papers reviewed were published in 192 distinct journals. The 10 most frequently found journals in the dataset (Table 1) represented 41.4% (n = 205) of all articles reviewed (n = 495). Of the most frequently found journals, four are multidisciplinary with an emphasis on environment and public health (*International Journal of Environmental Research and Public Health; Health and Place; The Journal of Sustainability*; and *The Journal of Environmental Research*); three are in the field of urban planning (*Landscape and Urban Planning; Urban Forestry and Urban Greening*; and *The International Journal of Urban Policy and Planning*); and three are oriented towards medical research (*PLoS ONE; The Journal of Social Science and Medicine*; and *BMC Public Health*). Two primary research areas arise when examining the fields of study of all journals found in the dataset, health and environment (Figure 7). Overall, the journals most frequently publishing on the relationship between urban space and mental health are journals in the field of public health, followed by urban planning, healthcare sciences, environmental research, and psychological and psychiatric health (Figure 7).

Table 1. Top 10 journals identified based on their frequencies of occurrence in the data set (n = 205).

| Journal	Publication Frequency
International Journal of Environmental Research and Public Health	50
Health and Place	44
Landscape and Urban Planning	30
Urban Forestry & Urban Greening	18
PLoS ONE	12
Sustainability (Switzerland)	11
Social Science and Medicine	11
Environmental Research	11
Biomedical Central (BMC) Public Health	9
Cities: The International Journal of Urban Policy and Planning	9
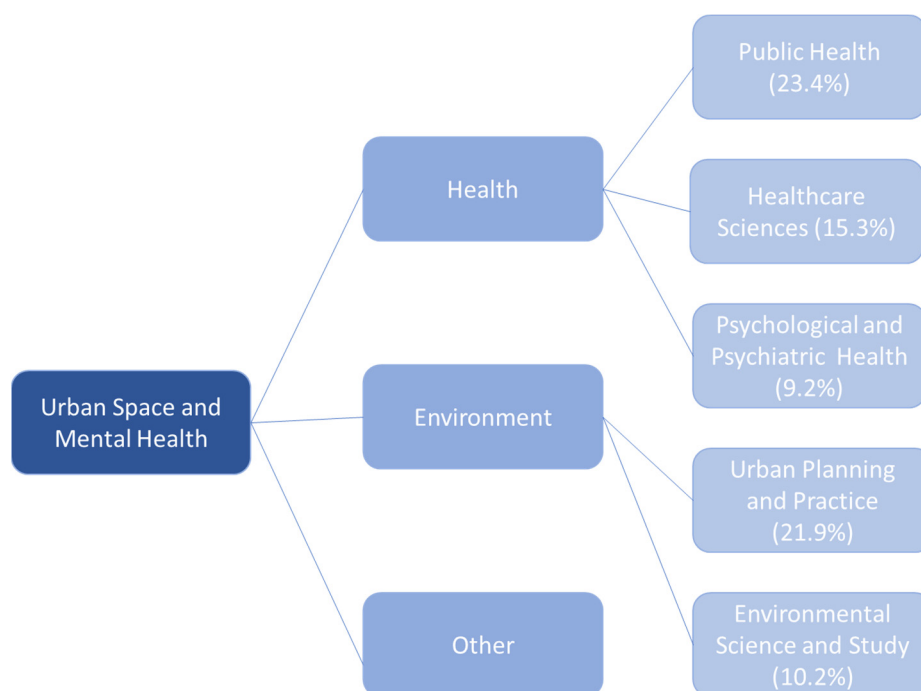
Figure 7. Research areas related to urban space and mental health (n = 195).

3.2.2. Author Affiliation Trends

The papers reviewed contained 500 distinct author affiliations. Similar to the research fields, the author affiliations could be broadly grouped into health and environment, which is unsurprising in light of the original key terms. A third broad category arose, primarily composed of sociology, technology, and public affairs. However, the most prominent author affiliations are in the fields of healthcare sciences (30.4%), and environmental science and study (20.1%), followed by public health (11.6%) and then urban planning (10.8%) (Figure 8).
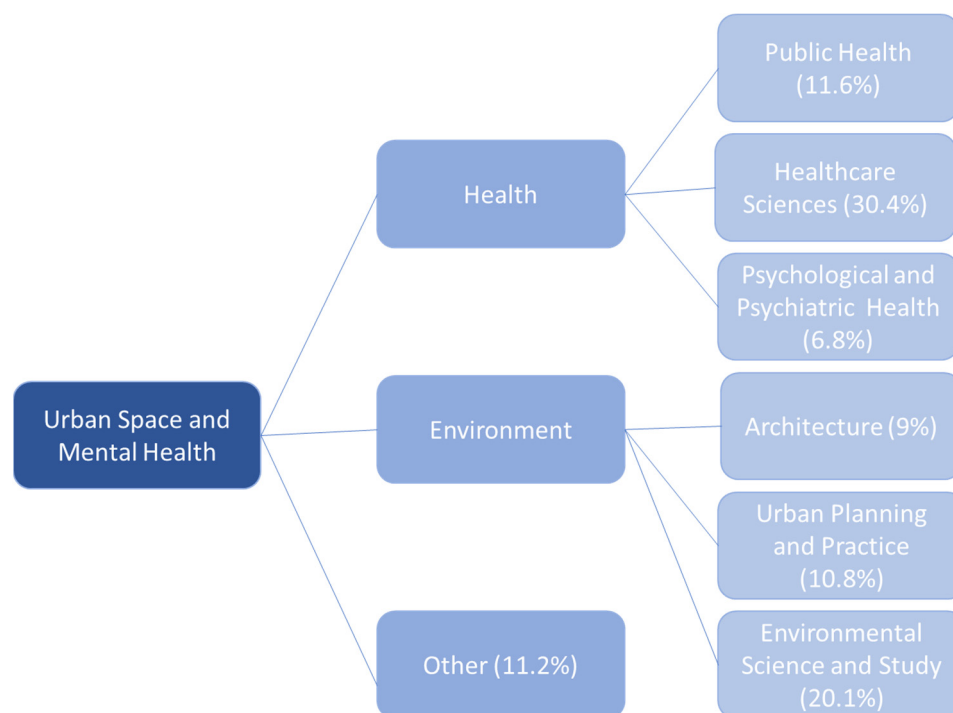
Figure 8. Field affiliations of authors in the dataset (n = 500).

3.3. Bibliometric Analysis

Bibliometric analysis can be used to help determine the significance of the relationships between diverse concepts in the field, such as the relationship frequencies from the scoping review. The bibliometric analysis goes beyond simple frequency and instead examines co-occurrence of key terms within the articles themselves, which can offer insight into the strength of the connections between key terms in the research.
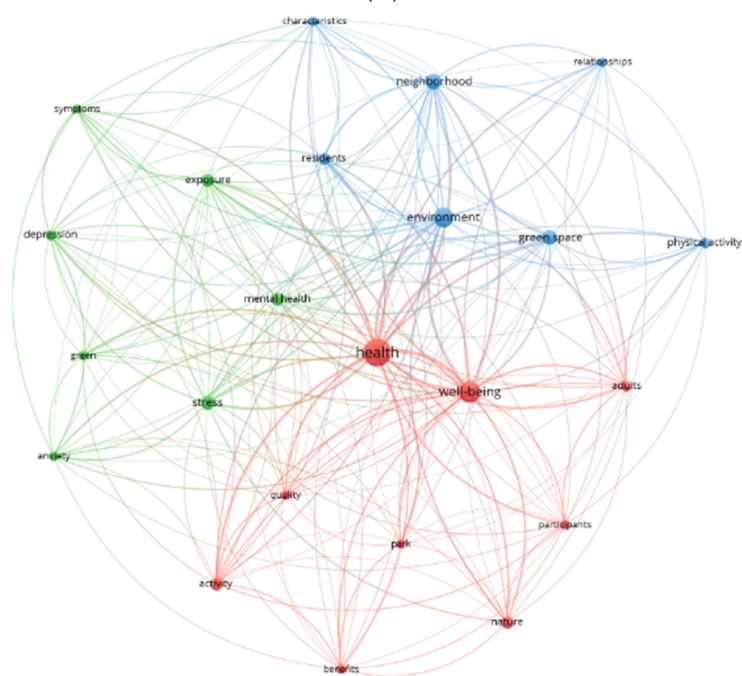
Term Co-Occurrence Analysis

Term co-occurrence analysis in the VOSviewer application identified three major thematic clusters. The minimum number of keyword occurrence was set at 20 as trials with a higher number of occurrences led to a cloud with fewer than 20 keywords. This resulted in a total number of keywords of 23 in the keyword cloud (Figure 9A,B). The node size is directly proportional to the frequency of the term, and the link thickness indicates link strength (Figure 9A,B). The density of term co-occurrence lends itself to three major thematic clusters, which are shown in the three different colors (Figure 9B). Terms that co-occur together more often are clustered together using the different colors (red, blue, and green).

The first cluster (red) is the cluster with the highest density and includes nine terms primarily related to general health, well-being, and activity. Terms, such as "health," "well-being," "adults," "park," "activity," and "nature," indicate that there have been numerous studies published on the connection between general health concerns and overall activity levels in the outdoors. However, research that incorporates other influential health

factors, such as epidemiological and sociological considerations and social cohesion, are understudied.
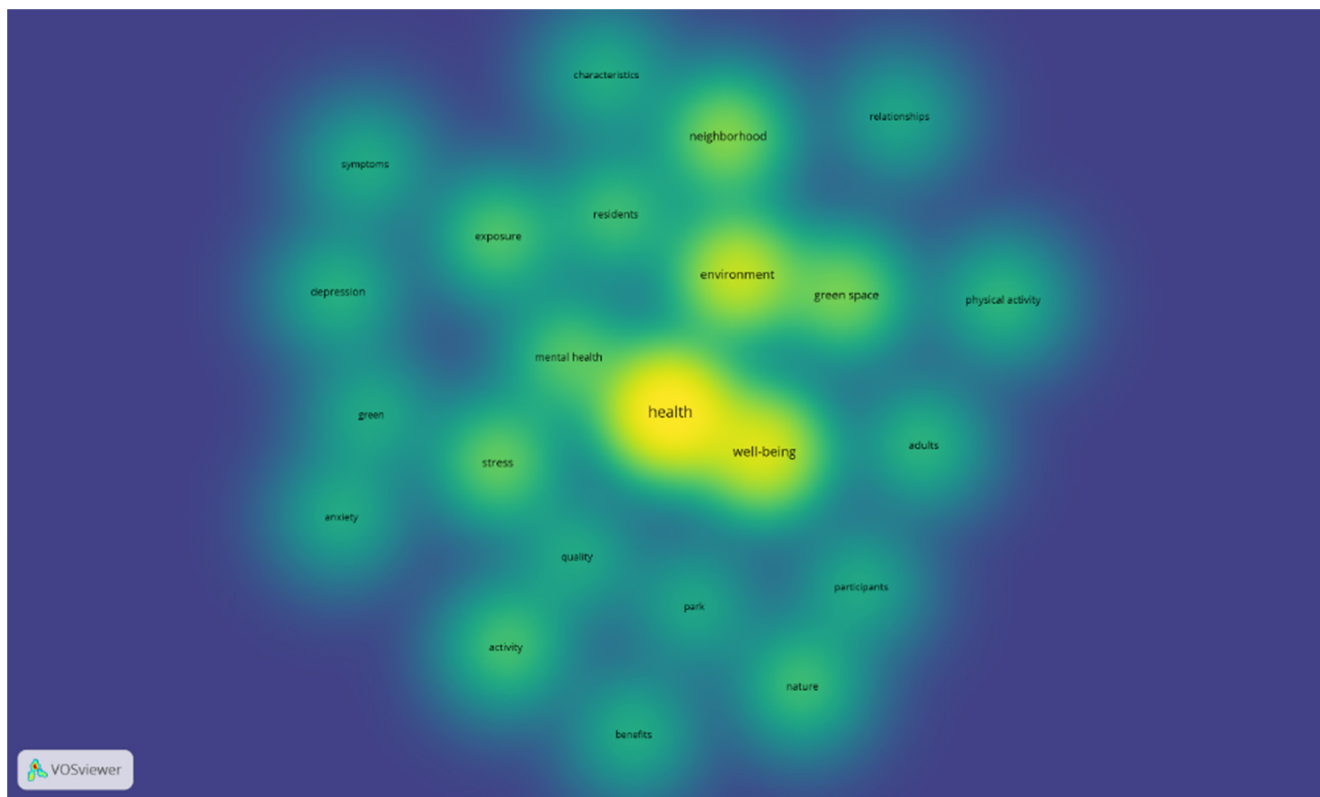
(A)

(B)

Figure 9. (**A**,**B**) Term co-occurrence map. Node size is proportional to the term frequency and link thickness indicates link strength. Different colors refer to clusters that co-occur frequently.

The second most dense cluster (green) includes seven terms primarily related to mental health, stress, anxiety, and depression. The presence of "green" and "exposure" in this cluster shows that there has been research into mental health treatments involving increased exposure to greenery and greenness in the environment as a pathway to address mental health concerns. While the literature focuses on exposure to green areas as a way to treat mental health, there is little research into exposure to green areas as a preventative care for mental health.

The final cluster (blue) includes six terms. The thematic focus of this cluster is primarily related to the environment, both built and natural, green space, and physical activity. The blue cluster is comparatively the weakest thematic grouping, indicating that the terms are less popular relative to the other thematic clusters. However, the prevalence of terms, such as "neighborhoods" and "environment", combined with the comparatively lower ranking of "green space" indicates that the literature has focused more so on measuring and assessing the built environment's impact on residents rather than urban green spaces, when considering the relationship between mental health and urban space.

Given the linkages between the terms "health," "green space," "mental health," and "environment," it is clear that many studies have been published on the connection between mental health and the natural environment. Other important mental health-related topics connected to urban built and natural environments are understudied, such as neurological impacts, cognitive development, and emotional and social health.

4. Discussion and Conclusions

The primary objective of this study was to create a better understanding of the existing knowledge and trends in the literature regarding the relationship between the built environment and mental health. Due to the nature of this work being primarily a meta-analysis, this section will discuss the results via "implications", both for research and policy and practice.

Uniquely, this study drew 495 articles from four distinct journal databases, whereas traditional bibliometric analyses draw from a single source. By drawing from a broader base of knowledge, this study offers a more holistic view of the trends in the field of research on the connection between urban environments and well-being to better identify future research pathways. Overall, this study found that the relationship between mental health and the urban environment is most often examined through the lens of urban green space and stress reduction. As mental health and well-being continues to increase in importance and prominence in the public, considerations regarding how to protect and promote mental health through the urban environment, both built and natural, requires attention. Results of this study indicate that this issue has been consistently examined and is well-recognized in the scientific and policy realms, as demonstrated by the numerous articles and frameworks published that provide solutions to enhance access and quality of urban environments for the purposes of increasing public health and well-being.

The scoping review broadly highlighted the prominent connections between the urban environment and mental health, wherein green spaces rose to the forefront as the most extensively examined connection between the two topics, both theoretically and categorically. The bibliometric analysis illuminated the thematic relationship between the urban environment and mental health in more detail, confirming the identified connection between urban green spaces and mental health but highlighted that the relationship in fact followed the association between mental health and well-being in the urban environment in prominence. The knowledge trends established in the scoping review and the bibliometric analysis indicated that there are gaps in methodological examinations of mental health as the majority of studies have limitations related to the use of subjective self-reported mental health assessments and that there are topical gaps primarily related to the less tangible factors of mental health, such as social and emotional health, as well as cognitive development.

4.1. Implications for Research

This study examined the state of the literature to better understand the relationship between urban spaces and mental health. The results indicate that there was existing interest in this field with the annual publications having increased steadily since 2010. The growth rate has been consistent, but the publication rate has been particularly high over the last five years, indicating that there has been an increasing focus on the importance of the impacts of urban space on human well-being and mental health.

In general, most of the papers reviewed found positive relationships between green or blue space and mental health. The strength and nature of these relationships in the field were further illustrated by bibliometric analysis where several focus areas were identified. However, it is important to note that there has been a steady composition of topics in the field over the last decade, which could indicate stagnation and a need for diversification in research approaches.

Examining the prominent journals publishing on this topic highlights diverse perspectives to approaching this research topic and underscores the complex nature of the relationship between mental health and urban environments. Analysis showed that the most prolific journals on this topic were from the field of public health, followed by the field of urban planning. Regarding the affiliations of the publishing authors, there is a lack of urban planners in this field as our examination showed that healthcare and environmental scientists are the most prolific on this topic.

The most prominent thematic cluster focused on health and well-being. The next major thematic area focused on mental health and associated conditions, such as stress, anxiety, and depression.

The third and final thematic grouping is concerned with the environment, both built and natural. As seen in the bibliometric analysis, green space and mental health are strongly connected and located near to each other in the visualization. Even though green space was an original search term, when examining the relationship between the urban environment and mental health, green space is often prominent. Influenced by the prominent psycho-evolutionary theories of stress reduction theory and attention restoration theory, green space and mental health have been well-connected in the literature [22,25]. Unlike physical activity, mental health factors can be more difficult to target and assess. However, stress reduction theory is built on the functioning of the endocrine system in the body (a system of gland and organs that use hormones to coordinate and control the body's metabolism), and experiments measuring the connection between green space exposure and stress often measure physical salivary cortisol levels [26–30]. On the other hand, attention restoration theory relies on cognitive measurements, such as EEGs, to measure brain activity, cognitive testing, and/or mood assessments [31,32]. Urban environments include both the built and natural, and the results from this study indicate that the literature between mental health and urban spaces is primarily concerned with the natural environment rather than the built.

Overall, these thematic groups cover issues related to three main factors affecting the relationship between urban spaces and well-being: general health, mental health, and environmental conditions. Further research on assessing the social and emotional dimensions of well-being and green space should be performed. Additionally, the fact that the clusters are very distinct thematically indicates that there is a lack of interdisciplinary approaches to understanding the intricate and complex factors contributing to the relationships between health, well-being, and urban green spaces. Future interdisciplinary research examining interrelated physical, psychological, and social health factors would advance the field.

4.2. Implications for Policy and Practice

As mental health and well-being continue to increase in importance and prominence in the public, considerations regarding how to protect and promote mental health through the designing and planning of the urban environment, both built and natural, requires attention. Similarly, as the field of urban planning lends itself to interdisciplinary research

and has a significant stake in designing and planning urban environments, both built and natural, urban planning researchers are poised to examine this relationship more deeply in the near future. Furthermore, as was seen in the healthy cities movement, translating research into practice and policy can remain an obstacle even with well-researched and established connections between health and urban environments [26]. Outside of research, urban planners are uniquely positioned to facilitate the transition of research into implementation through education, advocacy, and planning. Urban planners and policy makers can plan and implement urban environments that promote protective factors, reducing the negative impacts of the built environment on mental health. For instance, place attachment, which can be understood to mean the psychological and social connections people feel with specific places, such as their home or neighborhood, which can be fostered with efficient public transportation and wayfinding strategies, can function as a protective factor against developing mental illness [15,33]. Additionally, urban environments can empower people to interact with urban spaces, such as community gardens [33,34], which give individuals and communities more participant control, which in turn strengthens neurological pathways that reduce feelings of powerlessness and alienation. In addition, the COVID-19 pandemic has exacerbated underlying mental health issues and, brought new light and prominence to urban green spaces as one of the few components of our cities that were the least negatively impacted by community shutdowns and restrictions, increasing community resilience with mental health protective factors, such as stress reduction [35]. More empirical research, such as case studies, on how urban spaces planned with protective mental health and well-being factors can make communities more resilient by buffering physical health concerns and shoring up mental health, should be conducted in the future.

4.3. Strengths and Limitations

This study incorporates articles from several scientific databases, which is rare and limited the forms of bibliometric analyses that could be performed yet offers a more complete overview of the status of the literature. To limit bias in the data selection and extraction, keyword extraction software was applied to all articles, even if they provided their own keywords. While the above listed strengths make this study unique, there are also some limitations that should be acknowledged. The search for this study only spanned the publication years (2010–2021), as there is a wide publication base. Publications were also limited to those published in English, which may have resulted in some studies having been missed. This study was limited by the broad scope of the topic at hand; for instance, "the built environment" can range from buildings to neighborhood characteristics, to expansive outdoor areas, either urban or rural. As such, the search was not limited to specific types of green spaces, environment types, or well-being varieties; instead, it measured the interactions on a broader level. It should be noted that our findings are primarily rooted in research from the global north; however, the research and policy implications regarding the relationships between mental health, urban environments, and well-being are applicable to cities worldwide.

This study sourced journal articles from multiple databases, which provides a well-rounded view of the current knowledge structure. Overall, this study has provided a better understanding of contemporary research trends on the urban environment and health, both physical and psychological, in a growing field. Further examination of existing gaps in the field is needed to provide a more detailed grasp on the intricate social, emotional, physical, and psychological factors influencing well-being when exposed to urban environments. Finally, future research should make efforts to increase interdisciplinary approaches and promote the planning and implementation of protective factors for mental health in our urban environments.

Author Contributions: Conceptualization, Z.K.-K.; methodology, T.V.W. and Z.K.-K.; software, T.V.W.; formal analysis, T.V.W.; data curation, T.V.W.; writing—original draft preparation, T.V.W.; writing—review and editing, Z.K.-K., P.M. and Z.K.; supervision, Z.K.-K., P.M. and Z.K.; project

administration, Z.K.-K.; funding acquisition, Z.K.-K. and Z.K. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. United Nations. World Population Prospects: The 2017 Revision. 2017. Available online: https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html (accessed on 17 August 2022).
2. United Nations. 2018 Revision of World Urbanization Prospects. 2018. Available online: https://www.un.org/development/desa/publications/2018-revision-of-world-urbanization-prospects.html (accessed on 17 August 2022).
3. Kjellstrom, T.; McMichael, A.J. Climate change threats to population health and well-being: The imperative of protective solutions that will last. *Glob. Health Action* **2013**, *6*, 20816. [CrossRef] [PubMed]
4. Custot, J.; Dubbeling, M.; Getz-Escudero, A.; Padgham, J.; Tuts, R.; Wabbes, S. Resilient food systems for resilient cities BT. In *Resilient Cities*; Otto-Zimmermann, K., Ed.; Springer: Dordrecht, The Netherlands, 2012; Volume 2, pp. 125–137.
5. Prüss-Ustün, A.; Wolf, J.; Corvalán, C.; Bos, R.; Neira, M. *Preventing Disease Through Healthy Environments—A Global Assessment of the Burden of Disease from Environmental Risks*; World Health Organization: Geneva, Switzerland, 2016. [CrossRef]
6. Renalds, A.; Smith, T.H.; Hale, P.J. A systematic review of built environment and health. *Fam. Community Health* **2010**, *33*, 68–78. [CrossRef] [PubMed]
7. WHO Health Promotion Team. Healthy Cities Effective Approach to a Changing World. World Health Organization. 4 May 2020. Available online: https://www.who.int/publications/i/item/9789240004825 (accessed on 17 August 2022).
8. Bloomberg Philanthropies. The Partnership for Healthy Cities. *Bloomberg IP Holdings LLC.* Available online: https://partnershipforhealthycities.bloomberg.org/ (accessed on 12 February 2022).
9. Urban Links. Building Healthy Cities. In US AID from the American People. Available online: https://urban-links.org/project/building-healthy-cities/ (accessed on 12 February 2022).
10. Lovasi, G.S.; Grady, S.; Rundle, A. Steps forward: Review and recommendations for research on walkability, physical activity and cardiovascular health. *Public Health Rev.* **2011**, *33*, 484–506. [CrossRef] [PubMed]
11. Bird, E.L.; Ige, J.O.; Pilkington, P.; Pinto, A.; Petrokofsky, C.; Burgess-Allen, J. Built and natural environment planning principles for promoting health: An umbrella review. *BMC Public Health* **2018**, *18*, 1–13. [CrossRef]
12. Den Braver, N.R.; Lakerveld, J.; Rutters, F.; Schoonmade, L.J.; Brug, J.; Beulens, J.W.J. Built environmental characteristics and diabetes: A systematic review and meta-analysis. *BMC Med.* **2018**, *16*, 1–26. [CrossRef]
13. Malambo, P.; Kengne, A.P.; De Villiers, A.; Lambert, E.V.; Puoane, T. Built environment, selected risk factors and major cardiovascular disease outcomes: A systematic review. *PLoS ONE* **2016**, *11*, e0166846. [CrossRef]
14. Ohrnberger, J.; Fichera, E.; Sutton, M. The relationship between physical and mental health: A mediation analysis. *Soc. Sci. Med.* **2017**, *195*, 42–49. [CrossRef]
15. Kok, J.K.; Low, S.K. Risk factors contributing to vulnerability of mental health disorders and the protective factors among Malaysian youth. *Int. J. Sch. Educ. Psychol.* **2019**, *7*, 102–112. [CrossRef]
16. National Research Council (US); Committee on Physical Activity, Transportation, Land Use, Transportation, Research Board, & Institute of Medicine. *Does the Built Environment Influence Physical Activity?: Examining the Evidence—Special Report*; Transportation Research Board: Washington, DC, USA, 2005; Volume 282.
17. Hossain, M.M.; Tasnim, S.; Sultana, A.; Faizah, F.; Mazumder, H.; Zou, L.; McKyer, E.; Ahmed, H.U.; Ma, P. Epidemiology of mental health problems in COVID-19: A review. *F1000Research* **2020**, *9*, 636. [CrossRef]
18. Sharifi, A. Urban resilience assessment: Mapping knowledge structure and trends. *Sustainability* **2020**, *12*, 5918. [CrossRef]
19. Appleton, J. *The Experience of Landscape*; Wiley: London, UK, 1975.
20. Ulrich, R. Aesthetic and affective response to natural environment. In *Behavior and the Natural Environment*; Altman, I., Wohlwill, J.F., Eds.; Plenum Press: Boston, MA, USA, 1983; Volume 6, pp. 85–125.
21. Kaplan, S. The restorative benefits of nature. *J. Environ. Psychol.* **1995**, *15*, 169–182. [CrossRef]
22. Ulrich, R.S.; Fiorito, E.; Losito, B.D.; Miles, M.A.; Simons, R.F.; Zelson, M. Stress recovery during exposure to natural and urban environments. *J. Environ. Psychol.* **1991**, *11*, 201–230. [CrossRef]
23. Ajzen, I. The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.* **1991**, *50*, 179–211. [CrossRef]
24. Dahlgren, G.; Whitehead, M. *Policies and Strategies to Promote Social Equity in Health*; Institute of Future Studies: Stockholm, Sweden, 1991.
25. Roe, J.J.; Thompson, C.W.; Aspinall, P.A.; Brewer, M.J.; Duff, E.I.; Miller, D.; Mitchell, R.; Clow, A. Green space and stress: Evidence from cortisol measures in deprived urban communities. *Int. J. Environ. Res. Public Health* **2013**, *10*, 4086–4103. [CrossRef]
26. Jiang, B.; Chang, C.Y.; Sullivan, W.C. A dose of nature: Tree cover, stress reduction, and gender differences. *Landsc. Urban Plan.* **2014**, *132*, 26–36. [CrossRef]

27. Triguero-Mas, M.; Donaire-Gonzalez, D.; Seto, E.; Valentín, A.; Martínez, D.; Smith, G.; Hurst, G.; Carrasco-Turigas, G.; Masterson, D.; Berg, M.V.D.; et al. Natural outdoor environments and mental health: Stress as a possible mechanism. *Environ. Res.* **2017**, *159*, 629–638. [CrossRef]

28. Mygind, L.; Kjeldsted, E.; Hartmeyer, R.; Mygind, E.; Stevenson, M.P.; Quintana, D.S.; Bentsen, P. Effects of public green space on acute psychophysiological stress response: A systematic review and meta-analysis of the experimental and quasi-experimental evidence. *Environ. Behav.* **2021**, *53*, 184–226. [CrossRef]

29. Han, K.T. Effects of three levels of green exercise, physical and social environments, personality traits, physical activity, and engagement with nature on emotions and attention. *Sustainability* **2021**, *13*, 2686. [CrossRef]

30. Mennis, J.; Mason, M.; Ambrus, A. Urban greenspace is associated with reduced psychological stress among adolescents: A Geographic Ecological Momentary Assessment (GEMA) analysis of activity space. *Landsc. Urban Plan.* **2018**, *174*, 1–9. [CrossRef]

31. Lin, W.; Chen, Q.; Jiang, M.; Tao, J.; Liu, Z.; Zhang, X.; Wu, L.; Xu, S.; Kang, Y.; Zeng, Q. Sitting or walking? Analyzing the neural emotional indicators of urban green space behavior with mobile EEG. *J. Urban Health* **2020**, *97*, 191–203. [CrossRef]

32. Tsouros, A.D. Healthy cities: A political movement which empowered local governments to put health and equity high on their agenda. In *Integrating Human Health into Urban and Transport Planning*; Springer: Cham, Switzerland, 2019; pp. 73–88.

33. Mondschein, A.; Moga, S.T. New directions in cognitive-environmental research: Applications to urban planning and design. *J. Am. Plan. Assoc.* **2018**, *84*, 263–275. [CrossRef]

34. Alaimo, K.; Beavers, A.W.; Crawford, C.; Snyder, E.H.; Litt, J.S. Amplifying health through community gardens: A framework for advancing multicomponent, behaviorally based neighborhood interventions. *Curr. Environ. Health Rep.* **2016**, *3*, 302–312. [CrossRef]

35. Korpilo, S.; Kajosaari, A.; Rinne, T.; Hasanzadeh, K.; Raymond, C.M.; Kyttä, M. Coping with crisis: Green space use in Helsinki before and during COVID-19. *Front. Sustain. Cities* **2021**, *3*, 713977. [CrossRef]