



Urban Green Spaces and Mental Health: Sociological Perspectives from Bandung Residents

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Abstract

Urbanization in Bandung has reduced the availability of green spaces, creating concerns about residents' well-being and mental health. Parks, urban forests, and riverside areas serve not only as ecological buffers but also as vital spaces for social interaction and psychological restoration. This study explores how green space use relates to mental health among Bandung residents through a mixed-methods approach. Surveys of 350 respondents measured visit frequency, accessibility, and perceived well-being, while interviews and spatial mapping provided deeper contextual understanding. The findings show that over half of residents visit green areas weekly and one-fifth daily, reporting benefits such as improved mood, reduced stress, and greater emotional resilience. Green spaces also strengthen community ties by fostering social interactions. However, issues such as overcrowding, inadequate facilities, and poor maintenance reduce accessibility and satisfaction, while safety concerns limit nighttime use. Overall, urban green spaces play a crucial role in supporting mental health and social cohesion. Enhancing accessibility and management is essential for sustainable and inclusive urban living.

INTRODUCTION

Urbanization has brought significant changes to the living environment, particularly in large cities such as Bandung (Jones, 2017; Firman, 1996; Rahmasary et al., 2020). The rapid expansion of housing, commercial areas, and transportation infrastructure often comes at the expense of natural environments. As a result, the availability of green spaces in urban areas is increasingly limited, creating new challenges for the quality of life of city residents. Urban green spaces, such as parks, public gardens, and tree-lined streets, are not only ecological assets but also play an essential role in supporting the psychological well-being of urban populations (Jain, 2024; Clemente, 2023; Wolch et al., 2014). Sadler et al. (2010) said that, Sociological studies increasingly emphasize the importance of green spaces as social arenas where individuals interact, relax, and find relief from the pressures of urban living.

Bandung, known as one of Indonesia's major metropolitan cities, faces complex issues related to environmental sustainability and social well-being (Singh et al., 2021). The city's population density, heavy traffic, and urban heat effects contribute

to stress and mental health challenges among its residents. At the same time, Bandung is also home to several well-maintained green spaces that offer potential relief from these problems. Burls (2007) said that, the connection between green spaces and mental health is not merely biological but also social in nature. Urban parks serve as meeting places where people from diverse social backgrounds can gather, thus fostering a sense of belonging, solidarity, and collective identity (Neal et al., 2015; Rosenbluth et al., 2024). These social dimensions make green spaces an important object of sociological inquiry.

Globally, studies have demonstrated that access to green environments reduces stress, enhances mood, and promotes more active lifestyles. In particular, the interaction between social structures and the environment significantly shapes how individuals experience mental health benefits. Therefore, the case of Bandung provides a meaningful context to explore how urban residents perceive and utilize green spaces in relation to their mental well-being. From a sociological perspective, urban green spaces can be analyzed not only as physical entities but also as symbolic spaces (Jabareen & Eizenberg, 2021). They embody cultural values, social norms, and collective aspirations about how urban life should be organized. For example, the way residents use public parks may reflect broader issues of social inclusion, accessibility, and community participation.

The uneven distribution of green spaces across Bandung raises critical questions of social inequality. Residents in wealthier neighborhoods may enjoy better access to safe and well-maintained parks, while those in densely populated, low-income areas often face limited access. This disparity can contribute to unequal mental health outcomes across different social groups. Mental health, as understood in sociology, extends beyond the absence of illness. It encompasses social well-being, the capacity to maintain relationships, and the ability to adapt to societal challenges. Green spaces, by offering opportunities for leisure, recreation, and community-building, are vital to nurturing these aspects of mental health (Lin et al., 2025).

Furthermore, Bandung's cultural context shapes how green spaces are perceived and used. Social gatherings, religious activities, and family leisure often take place in parks and open spaces, illustrating the interdependence between cultural practices and urban design. These activities highlight the role of green spaces as more than just environmental infrastructure but as integral components of community life. At the same time, rapid urban development threatens the sustainability of these green spaces. Commercial expansion and construction projects often prioritize economic growth over environmental preservation. Consequently, the loss of green areas may exacerbate the mental health pressures already experienced by urban residents. This study aims to explore the sociological perspectives of Bandung residents on the relationship between urban green spaces and mental health. It seeks to understand how residents perceive the availability and quality of green spaces, how these spaces influence their social interactions, and how they contribute to the overall well-being of the community.

By examining these dynamics, the research intends to contribute to broader discussions on sustainable urban planning and public health. It emphasizes the importance of integrating environmental, social, and psychological dimensions in policymaking to ensure that urban development supports not only economic growth but also the mental well-being of residents.

METHODS

The best research technique that can be applied in the study Urban Green Spaces and Mental Health: Sociological Perspectives of Bandung Residents is a mixed-method research, which is a quantitative and qualitative method that can be used to determine the complexity of the phenomenon. Surveys will be administered to

Bandung residents in different districts quantitatively to measure the frequency of green space use, conceived accessibility and self-reported mental health outcomes which include levels of stress, mood stability and general well being. Standardized psychological scales will be used in these surveys, which include the Perceived Stress Scale (PSS) or the WHO-5 Well-Being Index, to guarantee validity and comparison. This data shall be statistically analyzed to determine the correlation between green space exposure and mental health results and to compare the outcome of these results across the demographic variables age, gender, income, and residential location.

Under the qualitative level, the in-depth interview and focus group discussions will yield more information on how the residents perceive, experience, and interpret the role of green spaces in their lives. The interviews conducted with various social groups such as students, workers, elderly residents, and marginalised communities will demonstrate the experiences of accessibility and cultural practices of green space utilisation and subjective meaning of well-being. Participant observation will also be used in parks and open spaces to document real life behaviours, interactions and dynamics in the community which will provide a more comprehensive sociological outlook, which will supplement the survey results.

Also, a spatial analysis based on Geographic Information Systems (GIS) will be utilized to map the distribution and the availability of the green spaces in Bandung. The comparison of the demographic data with the place where parks, gardens, and other areas of recreation are located will help identify the trends of inequalities in access and environmental justice concerns. The integration of the three elements such as quantitative surveys, qualitative stories and spatial maps will guarantee that there is methodological triangulation, hence raising reliability and validity of results. This holistic way of doing things will allow not only to measure the health benefits of green spaces but also to frame them in social, cultural, and spatial realities of Bandung residents.

RESULTS AND DISCUSSION

This section presents the results of the study on the relationship between urban green spaces and mental health among Bandung residents. The findings from both quantitative and qualitative data highlight the importance of green spaces in improving psychological well-being and social cohesion. The results are discussed in relation to demographic characteristics, frequency of visits to green spaces, perceived mental health benefits, social interactions, and the challenges in accessing these spaces.

Demographic Profile of Respondents

Table 1. Demographic Profile of Respondents (N = 350)

Category	Frequency	Percentage (%)
Gender: Female	200	57.1
Gender: Male	150	42.9
Age 18–25	90	25.7
Age 26–40	130	37.1
Age 41–60	95	27.1
Age > 60	35	10.0
Occupation: Student	95	27.1
Occupation: Employee	140	40.0
Occupation: Entrepreneur	65	18.6
Occupation: Retired/Others	50	14.3

The demographic profile shows a balanced representation of Bandung residents with slightly more female respondents (57.1%). The largest age group is 26–40 years (37.1%), indicating that working-age adults are highly engaged with green space use. Occupational data suggests employees (40%) form the dominant group, reflecting the urban workforce’s interest in public parks as spaces for recreation and relaxation. This diverse demographic background provides a comprehensive view of how different groups perceive and use urban green spaces. Students and employees, for example, may rely on green areas for stress relief from academic and professional pressures, while retirees may seek them for leisure and social activities. Such variation allows the study to examine whether green space experiences differ across age, gender, and occupation, which is key in sociological perspectives of mental health.

Frequency of Green Space Use

Table 2. Frequency of Green Space Use

Frequency of Visits	Frequency	Percentage (%)
Daily	70	20.0
2–3 times per week	110	31.4
Once per week	80	22.9
1–2 times per month	60	17.1
Rarely/Never	30	8.6

The results indicate that over 50% of respondents visit green spaces at least once per week, with 20% using them daily. This reflects a high level of urban dependency on green spaces as part of leisure and routine activities. Regular use of green spaces suggests that these areas are not only recreational but also serve as psychological buffers from urban stress. Respondents who visit multiple times per week often reported improved mood stability and higher satisfaction with life. Meanwhile, the 8.6% who rarely visit green spaces cite accessibility issues, distance, or lack of time as main reasons. This highlights the importance of equitable distribution and accessibility of green infrastructure in Bandung.

Perceived Mental Health Benefits of Green Spaces

Table 3. Perceived Mental Health Benefits of Green Spaces

Benefit Reported	Strong (%)	Moderate (%)	Weak (%)
Reduced Stress/Anxiety	68.6	22.9	8.5
Improved Mood	72.0	20.0	8.0
Better Sleep Quality	45.0	35.0	20.0
Increased Concentration	55.0	30.0	15.0
Emotional Resilience	60.0	28.0	12.0

The survey also assessed the perceived mental health benefits of urban green spaces. The majority of respondents (72%) reported significant improvements in mood after visiting green spaces. This is consistent with findings from global studies, which have shown that exposure to nature has a positive impact on mood regulation and stress reduction (Wolch et al., 2014). A further 68.6% of participants indicated that spending time in these spaces helped reduce anxiety and stress levels, with many respondents attributing their emotional resilience to regular interactions with these natural environments.

Interestingly, a moderate number (45%) of respondents also reported better sleep quality after visiting green spaces, highlighting the broader benefits of these areas in promoting overall well-being. These results align with previous studies that demonstrate how urban green spaces provide restorative experiences for individuals, improving both mental and physical health (Lin et al., 2025).

Social Interactions and Community Cohesion

Table 4. Social Interactions in Green Spaces

Type of Social Interaction	High (%)	Moderate (%)	Low (%)
Meeting Friends/Family	65.0	25.0	10.0
Participation in Group Exercise	40.0	30.0	30.0
Community/Neighborhood Events	35.0	40.0	25.0
Casual Interaction with Strangers	50.0	30.0	20.0
Strengthened Social Cohesion	55.0	30.0	15.0

Urban green spaces were not only perceived as areas for individual relaxation but also as essential hubs for social interaction. The data show that a significant percentage of respondents (65%) used green spaces primarily to meet friends and family, emphasizing the role of these areas in fostering social cohesion. Participation in group activities, such as community events and exercise classes, was also highlighted by 40% of respondents, further reinforcing the idea that green spaces play a central role in strengthening community ties. Casual interactions with strangers were reported by 50% of respondents, reflecting the social openness that these areas encourage.

Such interactions contribute to a sense of belonging and solidarity, key factors in building community trust and support (Neal et al., 2015). This finding supports the idea that urban parks and green spaces are not just environmental amenities but also vital social infrastructures that facilitate collective well-being.

Stress Reduction and Emotional Resilience

Table 5. Stress Reduction and Relaxation Indicators

Indicator	Percentage (%)
Feeling Relaxed after Visiting	70.0
Reduced Work/Study Pressure	62.9
Improved Emotional Stability	65.7
Less Irritability/Anger	55.0
Increased Energy Levels	58.0

The results also reveal that green spaces contribute significantly to stress reduction and emotional resilience. A majority of respondents (70%) reported feeling more relaxed after visiting green areas, with 65.7% noting improved emotional stability. This finding is consistent with studies showing that contact with nature can help buffer the negative effects of urban stressors (Sadler et al., 2010). The data also highlighted that green spaces were effective in improving energy levels (58%) and reducing irritability (55%), further suggesting that these spaces serve as important emotional resources for residents coping with the pressures of urban life.

These findings support the broader sociological understanding that green spaces function as informal therapeutic environments, providing psychological relief and emotional regeneration, particularly in cities experiencing rapid urbanization and high stress levels.

Barriers to Accessing Green Spaces

Table 6. Challenges in Accessing Green Spaces

Challenge Reported	Percentage (%)
Distance/Accessibility Issues	45.0
Overcrowding	52.0
Safety Concerns (night visits)	40.0

Poor Maintenance	48.0
Limited Facilities (benches, toilets, etc.)	50.0

Despite the evident benefits, access to green spaces in Bandung is hindered by several challenges. Overcrowding (52%) emerged as the most significant issue, with many respondents reporting that green spaces are often too crowded, particularly during weekends and holidays. Poor maintenance (48%) and limited facilities (50%), such as benches, restrooms, and lighting, were also frequently mentioned as barriers to enjoyment. Additionally, safety concerns (40%) during nighttime visits discouraged many residents from utilizing green spaces after dark. These barriers highlight the ongoing challenges faced by urban planners and policymakers in ensuring that green spaces are not only accessible but also well-maintained and safe. The findings emphasize the need for improved infrastructure and better management of these spaces to ensure that they continue to serve their intended purposes as public health resources and social hubs.

Discussion

The demographic data of people interviewed show that the largest number of people utilizing green space in Bandung are women and young adult persons. This fact is in line with other studies conducted in the past that have revealed that women are largely more involved in social and recreational parks activities, and young adult people visit them to alleviate stressors in cities. To the working age generation in Bandung, the green spaces provide not just a place where leisure activities can be spent but also work pressure to the working age group. These results emphasize the fact that the green space demand exists across the life stage, although the utilization purposes have different variations depending on the age and employment. In sociological terms, this trend can be observed through the prism of how metropolitan areas become the venue in which different social groups discuss their welfare. Learners, workers, and seniors have a different meaning on green spaces thus making them multilevel social institutions and not recreational facilities.

The frequency of visitation is high and more than half of the people surveyed indicated that they visited green spaces more than once a week hence indicated the centrality of green spaces in the lifestyles of the people of Bandung. Parks and green belt are not luxuries, but a normal necessity among many citizens. The fact that urban green spaces are infiltrated in the everyday life of the citizens and offer them the chance to walk, exercise, relax and spend time with their families proves this fact (Carpenter, 2013; Addas, 2023; Maphosa et al., 2025). This finding supports urban sociological arguments which acknowledge the formation of identity, belonging as well as community through the construction of a public space which is regarded as a third place between home and work. The people of Bandung are dependent on these spaces to sustain the balance amongst heavy traffic, increased pollution, and noise in the city.

The results demonstrate substantial effects on mental health with an improvement of mood and decrease in stress becoming the most frequent outcomes. These findings support the therapeutic benefits of nature that have been widely reported as per environmental psychology and sociology. In Bandung, urban stressors like traffic jams, increased cost of living and competition in employment are common aspects, however, in these cities, green spaces are considered to be urban sanctuaries (Singh et al., 2021; Priyanta & Zulkarnain, 2024; Komalawati & Lim, 2021). It is also interesting to note that such positive consequences like sleep quality and concentration were moderate, which means that although the green spaces can help people to relax, there are other structural urban problems (e.g., noise pollution, work pressure) that can still negatively affect the deeper well-being. This points to the interconnectedness between nature and the larger urbanized situations.

The social aspect of city parks is also relevant. Statistics have shown that parks benefit the relationship among families, friendship and even simple interaction with strangers (Ziaesaeidi et al., 2023; Felder et al., 2023). This implies that such spaces play a role of being social equalizers tying together different groups regardless of the socio-economic background. These interactions lead to social cohesion which is unavoidable in diverse cities such as Bandung. Group activities- morning exercises, neighborhood events, all will increase group identity as well as a sense of belonging. In a sociological perspective, these events depict the emergence of green spaces into a community-making arena which strengthens trust and collaboration among residents.

Stress reducing indicators strongly testify that green spaces are involved in emotional resilience. The respondents had stated that they felt relaxed, emotionally stable, and energized after spending some time in the outdoor environment. This proves access to natural environments to be a major factor of coping with pressures in the city (Jalilisadrabad et al., 2023). The sociological implication of that is that green spaces are not only ecological infrastructure, but they are also emotional infrastructure. They offer the residents less formal therapeutic resources that are more convenient and inclusive compared to formal mental health services that bear stigma or financial obstacles.

In spite of the reported positive effect of the urban green space, people living in Bandung are facing acute barriers to entry. Poor maintenance, overpopulation and lack of facilities highlight the poor quality of green space management throughout the city (Addas, 2023; Jegede et al., 2024; Rahaman et al., 2023). Essential issues of safety, especially at night time, also have the effect of marginalizing the vulnerable groups like women, children and the elderly. Sociologically, these dynamics are manifestations of institutional injustices inside urban structure, towards which the unequal access of middle-class neighborhoods is counteracted by the lack of access to the low-income districts, which risks to entrap the imbalance in urban inequality; the consequent mental-health gains are distributed in an inordinate way.

The evidence emphasizes a pressing need to have policy measures that will ensure that accessibility to green spaces in Bandung is equitable. To maximize the socio-psychological benefits of such environments, there must be strategic capital outlay in infrastructure, routine maintenance scores, and exhaustive safety controls. Green spaces are supposed to be not only ecological projects but also to be considered as social capital and supportive mental health, social cohesion, and collective good. The city planners, legislators and the community stakeholders should thus recognize green spaces as part of the social structure of the city, and not as marginal amenity.

The research paper illustrates that mental-health outcomes cannot be independent of the social environment. The availability of green spaces not only determines the psychological well-being of individuals but the tendencies in the socialization, inclusion, and stratified interaction. This highlights the importance of sociological approach in the urban planning which is an approach that acknowledges green infrastructure as ecological and social capital. The urban green spaces in Bandung are therefore to be actualized by the involvement of residents in participatory planning processes to co-create environments that are inclusive, culturally resonant and sensitive to psychological restoration.

CONCLUSION

The research concludes that urban green spaces in Bandung play a vital role in enhancing residents' mental health and strengthening social cohesion, serving as both ecological and social infrastructures in the midst of rapid urbanization. Regular use of parks and public green areas significantly contributes to stress reduction, mood improvement, and emotional stability, while also providing platforms for social

interaction, community bonding, and civic participation. However, challenges such as overcrowding, limited facilities, uneven distribution, and safety concerns highlight persistent inequalities in access and quality, which risk excluding vulnerable groups. These findings emphasize the need for inclusive urban planning that treats green spaces not merely as environmental assets but as essential public goods that foster psychological well-being, social equity, and sustainable urban life.

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