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RESEARCH ARTICLE

WALK TO HEAL: ASSESSMENT ON WALKING ACCESSIBILITY AND SAFETY IN URBAN AREAS IN ISABELA, PHILIPPINES

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Abstract

This study, Walk to Heal: Assessment on Walking Accessibility and Safety in Urban Areas, examines residents' perceptions of walkability and pedestrian safety in District 1, Province of Isabela, Philippines. Anchored on the United Nations' Sustainable Development Goals (SDGs), particularly Goal 3 (Good Health and Well-being), Goal 11 (Sustainable Cities and Communities), and Goal 13 (Climate Action), the study investigates how neighborhood environments support walking as a safe and sustainable mode of transport. A cross-sectional survey was conducted among 380 respondents using the validated Neighborhood Environment Walkability Scale (NEWS). Findings show that residents commonly walk short distances to meet daily needs such as grocery shopping and school attendance. While overall perceptions of walkability were favorable, concerns emerged regarding traffic safety, limited access to recreational facilities, and gaps in connectivity. Respondents expressed satisfaction with their neighborhoods as generally safe and livable but emphasized the need for improved traffic management, enhanced pedestrian infrastructure, and greater access to entertainment and recreation. The study highlights the importance of integrating pedestrian-friendly planning measures, including traffic calming, green spaces, and recreational diversity, to encourage active transportation and enhance community well-being. Involving residents in the planning process ensures that built environments are inclusive, supportive of walking, and aligned with the 2030 UN SDGs.

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INTRODUCTION

The adoption of the United Nations' Sustainable Development Goals (SDGs) in 2015 marked a global commitment to eradicate poverty, protect the planet, and foster human wellbeing by 2030. Among these goals, those most directly linked to walkability include Goal 3 (Good Health and Well-being), Goal 11 (Sustainable Cities and Communities), and Goal 13 (Climate Action). In the Philippines, these priorities have shaped policies on sustainable transport and urban health ((NEDA), 2024)

Walking remains one of the most accessible and cost-effective forms of physical activity. It provides extensive health benefits, including reducing the risk of chronic disease, improving cardiovascular fitness, and supporting mental well-being (Hyde et al., 2020). Beyond individual health, walking contributes to community interaction, reduced reliance on automobiles, and environmental sustainability (Kelly et al., 2017). Despite these advantages, walking behavior is highly dependent on perceived safety from both traffic hazards and crime (Lizárraga et al., 2022). Studies worldwide emphasize that well-designed pedestrian infrastructure, greenery, aesthetics, and connectivity foster walking, while barriers such as poor street design, limited recreational facilities, and unsafe environments discourage it (Mateo-Babiano, 2016). In the Philippine context, cities such as Marikina, Pasig, and Iloilo have implemented pedestrian-focused urban planning (*Philippine Road Safety Action Plan (2023-2028)*, 2023). However, research examining walkability in rapidly urbanizing municipalities outside major metropolitan centers remains scarce.

RESEARCH GAP AND OBJECTIVES

Although walkability has been investigated in major Philippine cities, limited studies have assessed how residents in first-class municipalities experience accessibility and safety in their neighborhoods. This is an important gap given the rapid urbanization of provincial towns, where infrastructure development often struggles to keep pace with population growth.

This study, Walk to Heal (Walking Towards Healthy Living): Assessment on Walking Accessibility and Safety in Urban Areas, seeks to address this gap by:

1. Profiling the socio-demographic characteristics of residents who rely on walking as their primary mode of mobility.
2. Assessing perceptions of neighborhood walkability in terms of access to services, infrastructure, safety, and surroundings.
3. Evaluating neighborhood satisfaction related to accessibility and safety.

METHODOLOGY

Research Design

This study employed a cross-sectional survey design to capture perceptions of walkability and safety at a single point in time. The approach provides a snapshot of neighborhood conditions without influencing respondents' behavior.

Research Setting

The research was conducted in Tumauni and Cabagan, the only first-class municipalities in District 1, Isabela. These municipalities were selected due to their urban characteristics, built structures, and service facilities. Data collection was focused on densely populated areas near the *Centro*, where walking accessibility and safety are most relevant.

Participants

Purposive sampling was used to select individuals aged 18–45 who regularly walk as their primary mode of transportation. Based on a population of 28,207, a sample of 380 respondents was targeted at a 95% confidence level with a 5% margin of error. The final sample ($N = 380$) had a mean age of 28.38 years ($SD = 7.90$). The largest group were aged 19–23 (41.84%), most were female (56.05%), students (35.26%), and from middle-income backgrounds (53.95%).

Data Collection

Permission to conduct the study was obtained from municipal mayors and barangay captains. Surveys were administered face-to-face across urban barangays in Tumauni (e.g., Maligaya, San Pedro, Lingaling, Brgy. 1–4) and Cabagan (e.g., Centro, Catabayungan, Anao, Luquilu, Ugad). Respondents were interviewed directly to ensure an accurate understanding of the questions.

Instrumentation

The study adapted the Neighborhood Environment Walkability Scale (NEWS) developed by the National Cancer Institute and validated in previous studies (Hakimian & Lak, 2016; Rosenberg et al., 2009). The questionnaire covered socio-demographic characteristics, walking commute distance, and perceptions of walkability in relation to services, infrastructure, safety, and neighborhood satisfaction. To enhance comprehension, a Tagalog version was provided, with assistance from a Filipino major educator.

Data Analysis

Descriptive statistics (frequencies, percentages, and means) were used to analyze data. Socio-demographic profiles were summarized, while perceptions of walkability and satisfaction were assessed using Likert scale responses. Results were interpreted to identify patterns and implications for urban communities.

RESULTS

Table 1 Length of Walking Commutes of Respondents ($N = 380$)

Walking Time	Frequency	Percentage
5–10 minutes	233	61.32%
11–20 minutes	123	32.37%
30 minutes	16	4.21%
More than 1 hour	8	2.11%
Total	380	100%

Most respondents walked short distances, with over 93% reporting commutes of less than 20 minutes. This indicates that essential destinations such as schools and grocery stores were generally accessible on foot, underscoring the role of local service availability in promoting walking behavior.

Dimension	Overall Mean	Interpretation
Access to services	2.72	Somewhat Agree
Street connectivity	2.63	Somewhat Agree
Walking infrastructure	3.19	Somewhat Agree
Neighborhood surroundings	3.18	Somewhat Agree
Safety from traffic	2.86	Somewhat Agree

Safety from crime	2.54	Somewhat Agree	Table 2
			<u>Perceptions of</u>

Walkability by Dimension

Note. Ratings based on a 4-point Likert scale (1 = Strongly Disagree, 4 = Strongly Agree).

Overall, respondents moderately agreed that their neighborhoods supported walking. The highest ratings were for walking infrastructure (M = 3.19) and neighborhood surroundings (M = 3.18), reflecting the availability of sidewalks and general cleanliness. In contrast, safety from crime (M = 2.54) and traffic conditions (M = 2.86) were rated lowest, signaling safety concerns as major barriers to walkability despite favorable infrastructure.

Table 3 Neighborhood Satisfaction Ratings

Item	Mean	Interpretation
Highway access	4.23	Strongly Satisfied
Ease and pleasantness of walking	4.24	Strongly Satisfied
Good place to raise children	4.33	Strongly Satisfied
Good place to live	4.37	Strongly Satisfied
Safety from crime	3.92	Somewhat Satisfied
Traffic management	3.82	Somewhat Satisfied
Access to shopping	4.14	Somewhat Satisfied
Access to entertainment	3.01	Neutral
Overall Mean	4.02	Somewhat Satisfied

Note. Ratings based on a 5-point Likert scale (1 = Strongly Dissatisfied, 5 = Strongly Satisfied).

Neighborhood satisfaction was generally high, with respondents strongly satisfied with their neighborhoods as good places to live (M = 4.37) and raise children (M = 4.33). Ease of walking and highway access were also rated positively. However, access to entertainment scored lowest (M = 3.01), suggesting that while essential services are sufficient, limited leisure and recreational opportunities restrict broader walking engagement.

DISCUSSION

The findings demonstrate that walkability in Tumauni and Cabagan is strongly shaped by proximity to essential services. Most respondents reported short walking commutes of less than 20 minutes, primarily to destinations such as schools and grocery stores. This supports international evidence that access to daily necessities within walkable distances encourages active transportation (Pikora et al., 2003; Richard et al., 2013). However, the longer distances to recreational facilities may discourage walking for leisure, echoing Sallis et al. (2020) findings that distant leisure amenities reduce physical activity opportunities.

Perceptions of walkability revealed both strengths and limitations. Respondents rated sidewalks and general cleanliness favorably, suggesting that basic infrastructure for walking is in place. This aligns with studies by Johansson et al. (2016) and Lu et al. (2018), which

found that aesthetics and well-maintained environments positively influence walking behavior. However, the lowest scores were for safety from crime and traffic, highlighting vulnerabilities in pedestrian environments. Similar to Lizárraga et al. (2022) and Kim et al. (2020), the present findings emphasize that perceptions of danger from speeding vehicles and crime, even if relatively infrequent, remain barriers to walking.

Neighborhood satisfaction was high overall, with respondents strongly agreeing that their communities are good places to live and raise children. This suggests that walkability contributes positively to residents' perceptions of quality of life, consistent with Chan and Li's (2022) observation that neighborhood attachment enhances both walking satisfaction and overall wellbeing. Yet, the neutral ratings for access to entertainment reveal a gap in leisure infrastructure. Jeon and Park (2020) similarly noted that satisfaction with walkability depends not only on functional access but also on opportunities for recreation and social engagement.

In sum, the study underscores that while infrastructure and proximity to essential services support everyday walking in these municipalities, concerns about traffic safety and limited recreational opportunities remain significant barriers. Addressing these issues could enhance both utilitarian and leisure walking, ultimately promoting healthier and more sustainable communities.

CONCLUSION

This study provides evidence on the factors influencing walkability in first-class municipalities of Isabela, Philippines. Proximity to essential services encourages walking, but limited recreational access and traffic concerns restrict broader walking opportunities. Wellmaintained sidewalks, clean surroundings, and perceived safety contribute positively to neighborhood walkability, yet improvements are needed in traffic management, greenery, and entertainment accessibility.

The study contributes to the literature by focusing on urbanizing municipalities beyond major Philippine cities, offering insights into walkability at the provincial level. These findings support the integration of pedestrian-centered planning into local development strategies to achieve sustainable and livable communities in line with the SDGs.

RECOMMENDATION

To make cities more walkable, local governments should prioritize improvements in infrastructure, traffic safety, recreational access, and security. Expanding and maintaining sidewalks, adding green buffers, and enhancing street connectivity can make walking safer and more convenient. Traffic management measures such as speed calming and improved pedestrian crossings are needed to reduce risks and improve comfort. Increasing the availability of parks, gyms, and leisure spaces within neighborhoods can encourage walking for recreation as well as daily needs. Strengthening crime prevention through better lighting, visibility, and surveillance will also help sustain perceptions of safety. Finally, involving residents in planning ensures that interventions reflect community needs and foster stronger support for walkability initiatives.

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