

# Students' Perception of Green Spaces in Caleb University Campus and Their Impact on Social Interactions

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**Abstract:** Campus green spaces are widely recognized as vital components of the built university environment, contributing significantly to students' psychological well-being and academic performance while serving as primary hubs for informal socialization (Speake, Edmondson, & Nawaz, 2013). However, while extensive literature exists on the benefits of campus landscapes globally, empirical studies exploring how these spaces actively shape social interactions within the specific socio-cultural context of Nigerian private tertiary institutions remain critically scarce. Addressing this gap, this study aims to evaluate students' perceptions of the existing green spaces at Caleb University and determine how these environments impact their social interactions. The specific objectives are to identify the most utilized green areas on the campus, assess the features that attract students to these spaces, and analyze the correlation between perceived green space quality and the frequency of social engagement. To achieve this, the study adopts a mixed-methods research design. Quantitative data will be collected using structured questionnaires distributed to a stratified random sample of 350 undergraduate students. This will be complemented by qualitative data gathered through semi-structured interviews and direct non-participant observation of key campus green zones. Quantitative data will be analyzed using descriptive statistics and Pearson's correlation, while thematic analysis will be applied to the qualitative data to uncover the nuanced ways the campus landscape fosters student community and social cohesion.

**Keywords:** Campus Green Spaces, Social Interaction, Student Perception, Built Environment, Social Cohesion, Environmental Psychology, Caleb University.

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## I. INTRODUCTION

The physical environment of an educational institution plays a profound role in shaping the academic and social experiences of its students. As universities expand to accommodate growing student populations, the preservation and integration of green spaces such as lawns, botanical gardens, tree-lined walkways, and shaded courtyards often compete with the construction of new academic blocks and hostels (Lau & Yang, 2009). Caleb University, located in Imota, Lagos State, is a rapidly developing private institution. The university's master plan incorporates various open areas, yet the functional value of these spaces extends far beyond mere aesthetics. Green spaces act as vital social infrastructure. They provide a psychological refuge from academic pressures and serve as informal gathering nodes that foster peer-to-peer relationships, group study, and casual conversations, all of which are critical for holistic student development (Kaplan & Kaplan, 1989).

### ➤ Aim and Objectives

- **Aim:**  
This study investigates how undergraduate and postgraduate students perceive the existing green spaces on the Caleb University Imota campus and evaluates the impact of these spaces on their social interactions and community cohesion.
- **Objectives:**
  - ✓ To identify the types and distribution of green spaces actively utilized by students on the Caleb University campus.
  - ✓ To assess students' perceptions regarding the accessibility, aesthetic quality, and physical comfort (e.g., shading, seating) of these green spaces.
  - ✓ To determine the frequency and nature of social interactions that occur within these natural environments.

- ✓ To establish the correlation between the quality of campus green spaces and the self-reported mental well-being and prosocial behavior of the students.

#### ➤ *Problem Definition*

University life is inherently stressful, characterized by rigorous academic demands, tight deadlines, and the social pressures of transitioning into young adulthood. While Caleb University provides a serene location away from the extreme bustle of central Lagos, the rapid infrastructural development on the Imota campus raises concerns about the potential marginalization of functional natural environments. If green spaces are poorly maintained, lack adequate seating, or are not shaded against the harsh tropical sun, they become transitional zones rather than destinations (Peters, Elands, & Buijs, 2010). The core problem lies in a potential disconnect between the mere physical availability of green areas and the students' actual perception and utilization of them as catalysts for social integration and stress relief.

## II. LITERATURE REVIEW

The theoretical foundation of this study is anchored in Biophilia, a concept popularized by Edward O. Wilson (1984), which suggests an innate human affinity for the natural world. In educational settings, biophilic design principles have been consistently linked to improved cognitive function and emotional well-being (Kaplan & Kaplan, 1989). Beyond psychological benefits, the integration of such natural elements is a core pillar of sustainable architecture in the Nigerian built environment, where strategies like site optimization and the use of energy-efficient building envelopes are used to minimize environmental degradation (Ogunnaiké et al., 2025).

Furthermore, research suggests that specialized nature-based solutions, such as green roofs, play a critical role in urban environmental management, specifically in mitigating airborne pollutants within the dense, rapidly developing context of Lagos (Dennis et al., 2025). The quality of these environments whether through air filtration or spatial design directly impacts user experience. For instance, studies on spatial layout and circulation efficiency have demonstrated that physical comfort and ease of navigation significantly shape user satisfaction and emotional response (Daramola et al., 2025). Within the university context, the quality of housing and immediate campus environments acts as a vital stimulus for students' academic performance and moral discipline, as overcrowding and poor maintenance can negatively shift learning outcomes (Adeyemi et al., 2024).

Landscape elements such as shaded courtyards are essential for thermal comfort in tropical climates (Ademakinwa, 2023; Hwang et al., 2011).

## III. RESEARCH METHODOLOGY

#### ➤ *Research Design*

This study will adopt a descriptive survey research design alongside direct field observation. The survey design is ideal for assessing the subjective perceptions, attitudes,

and behaviors of a large group of people (the students). The supplementary field observation will provide objective data on how the green spaces at Caleb University are physically utilized for social activities (e.g., group studying, chatting, relaxing) in real-time.

#### ➤ *Study Area*

The study area is the Caleb University campus located in Imota, Lagos State, Nigeria. The research will specifically focus on designated green infrastructure within the campus, including landscaped lawns, tree-shaded seating areas, and courtyards between college buildings.

#### ➤ *Target Population*

The target population for this study comprises all actively enrolled undergraduate students at Caleb University across its various colleges (e.g., CASMAS, COLENSMA, COPAS, etc.). Students are the primary users of the campus environment, making them the most appropriate demographic to evaluate its impact on social interactions.

#### ➤ *Sample Size and Sampling Technique*

- *Sample Size:*

To determine a statistically representative sample from the total student population, the Taro Yamane formula or the Krejcie and Morgan table can be applied. (*Assuming a population of a few thousand, a standard sample size usually falls between 300 to 400 respondents*).

- *Sampling Technique:*

A stratified random sampling technique will be used. The student body will be divided into "strata" based on their respective colleges and level of study (e.g., 100L, 200L). This ensures that the data captures diverse perspectives, as students in different departments may have varying proximities to and uses for campus green spaces.

#### ➤ *Instruments for Data Collection*

Data will be collected using two primary instruments:

- *Structured Questionnaire:*

Titled "Students' Perception and Social Interaction in Green Spaces Questionnaire (SPSIGSQ)." It will be divided into three sections:

- ✓ *Section A:* Demographic characteristics (Age, Gender, College, Level).
- ✓ *Section B:* Perception of campus green spaces (Quality, accessibility, safety, aesthetic appeal) using a 4-point or 5-point Likert scale (e.g., Strongly Agree to Strongly Disagree)
- ✓ *Section C:* Impact on social interactions (Frequency of meeting peers, group discussions, making new friends in these spaces).

- *Observation Checklist/Behavioral Mapping:*

The researcher will conduct site visits during peak campus hours (e.g., midday breaks, late afternoons) to map where students cluster, the types of social activities

occurring, and the physical condition of those specific green areas.

➤ *Validity and Reliability of the Instrument*

• *Validity:*

The drafted questionnaire will be presented to your project supervisor and a few experts in environmental psychology or architecture to ensure the questions accurately measure what they are supposed to measure (Content and Face Validity).

• *Reliability:*

A pilot study will be conducted by administering the questionnaire to a small sample of students (e.g., 20-30 students) who will not be part of the final study. A Cronbach’s Alpha reliability test will be run on the pilot data to ensure internal consistency.

➤ *Method of Data Collection*

The questionnaires will be administered using a hybrid approach: physical paper copies distributed at key faculty buildings and digital copies (via Google Forms) shared through official student WhatsApp groups to maximize the

response rate. Observations will be recorded discreetly to ensure students' natural social behaviors are not altered.

➤ *Method of Data Analysis*

The collected data will be cleaned, coded, and analyzed using statistical software such as SPSS or Microsoft Excel.

• *Descriptive Statistics:*

Frequencies, percentages, and mean scores will be used to analyze demographic data and summarize students' general perceptions of the green spaces.

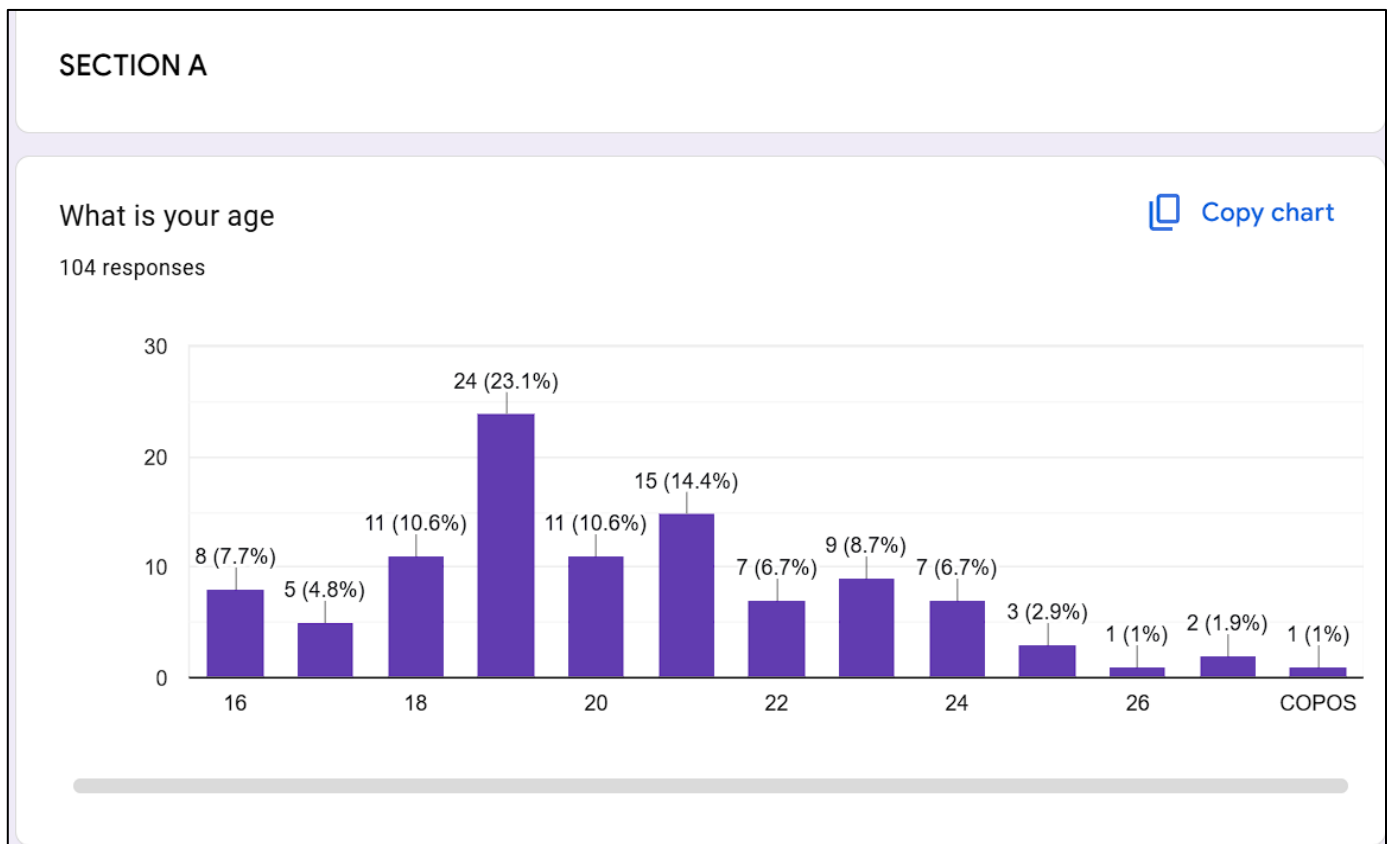
• *Inferential Statistics:*

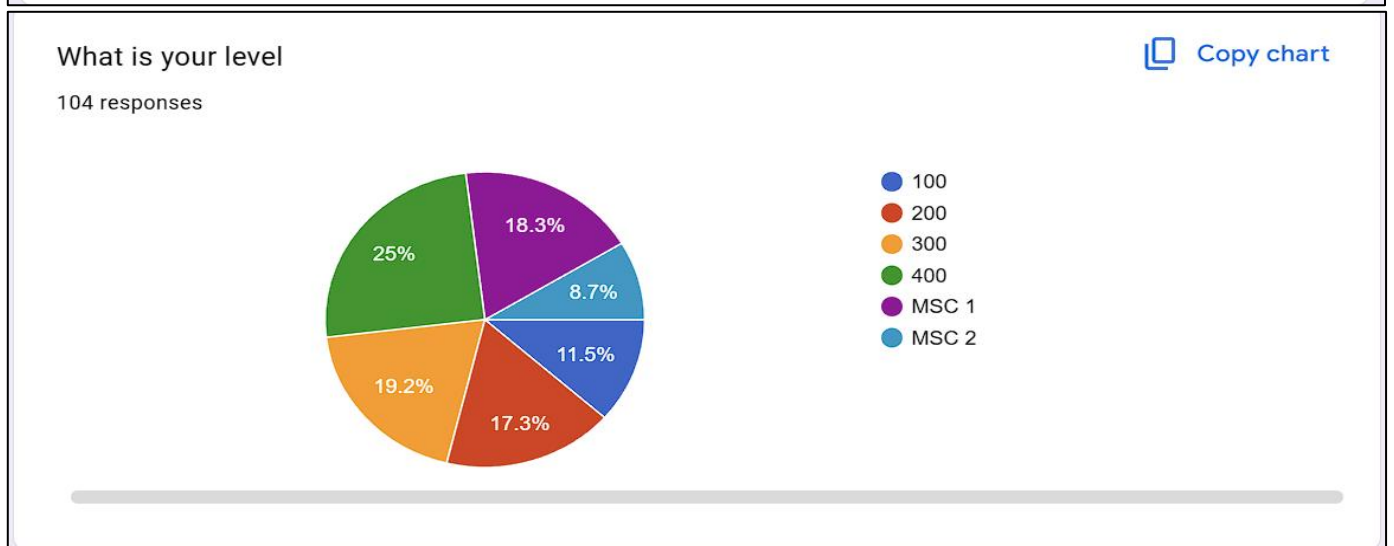
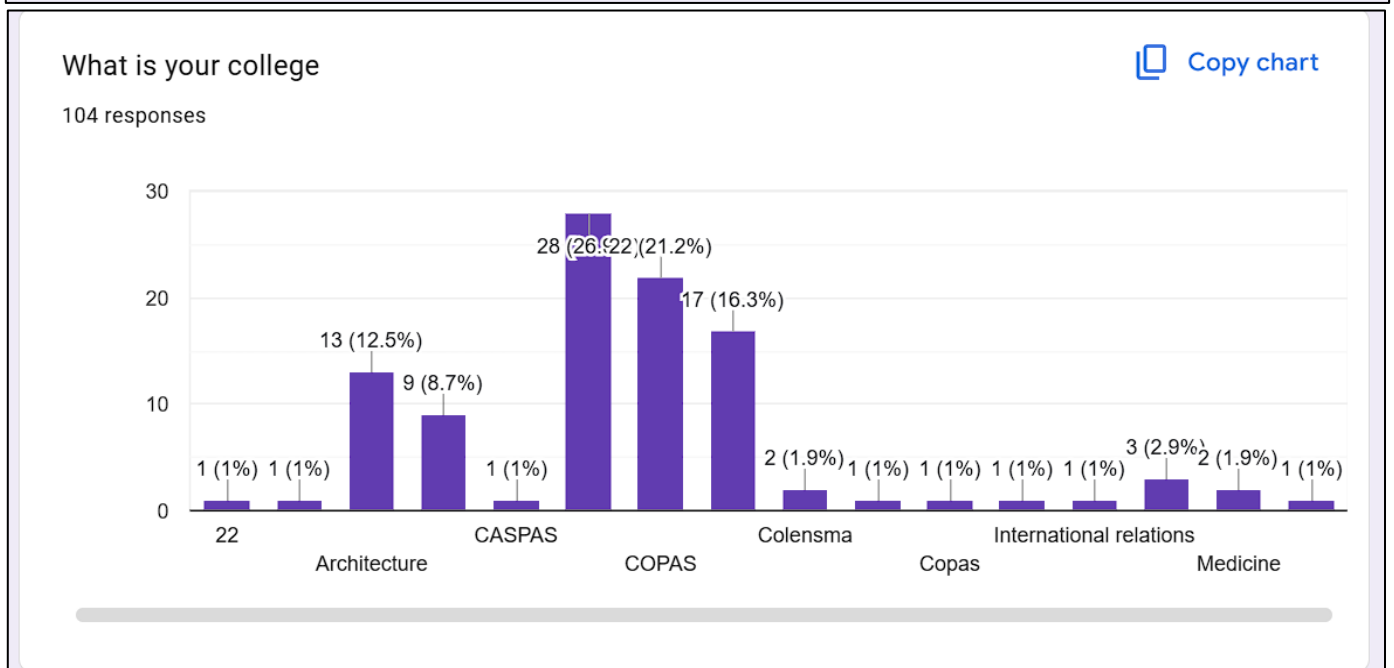
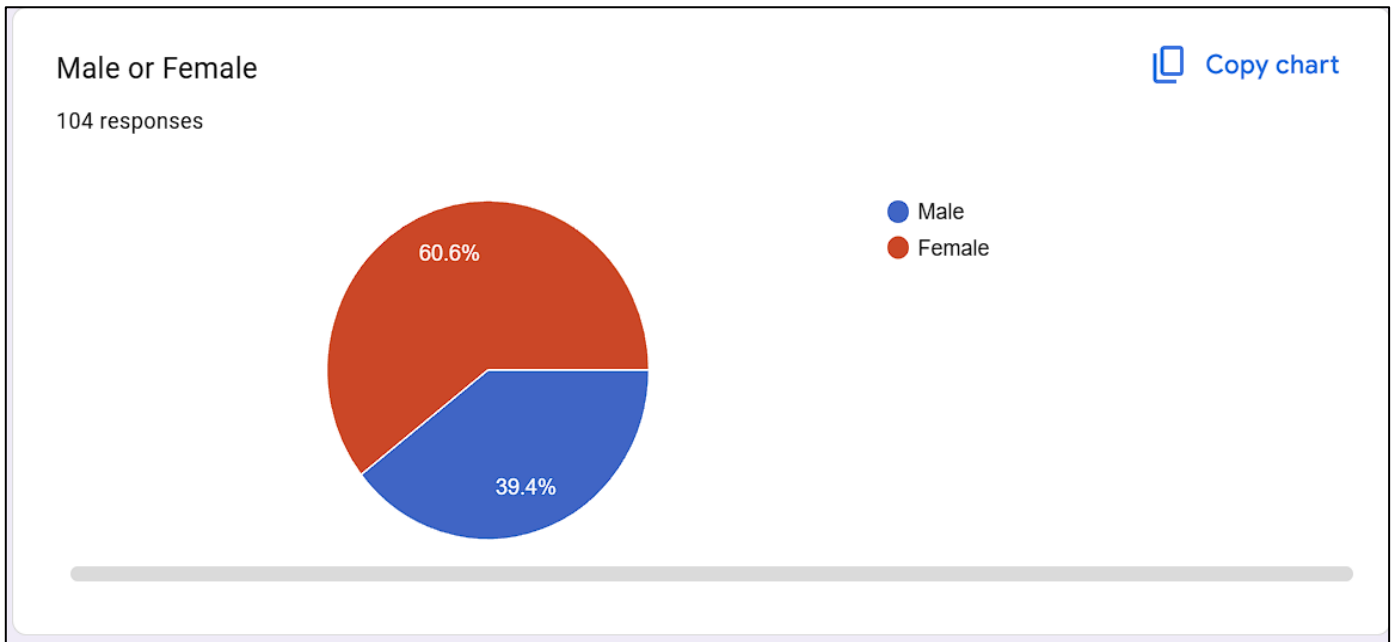
A Pearson Correlation or Chi-Square test will be used to test the hypothesis and determine if there is a statistically significant relationship between the perceived quality of green spaces and the frequency/quality of social interactions among students.

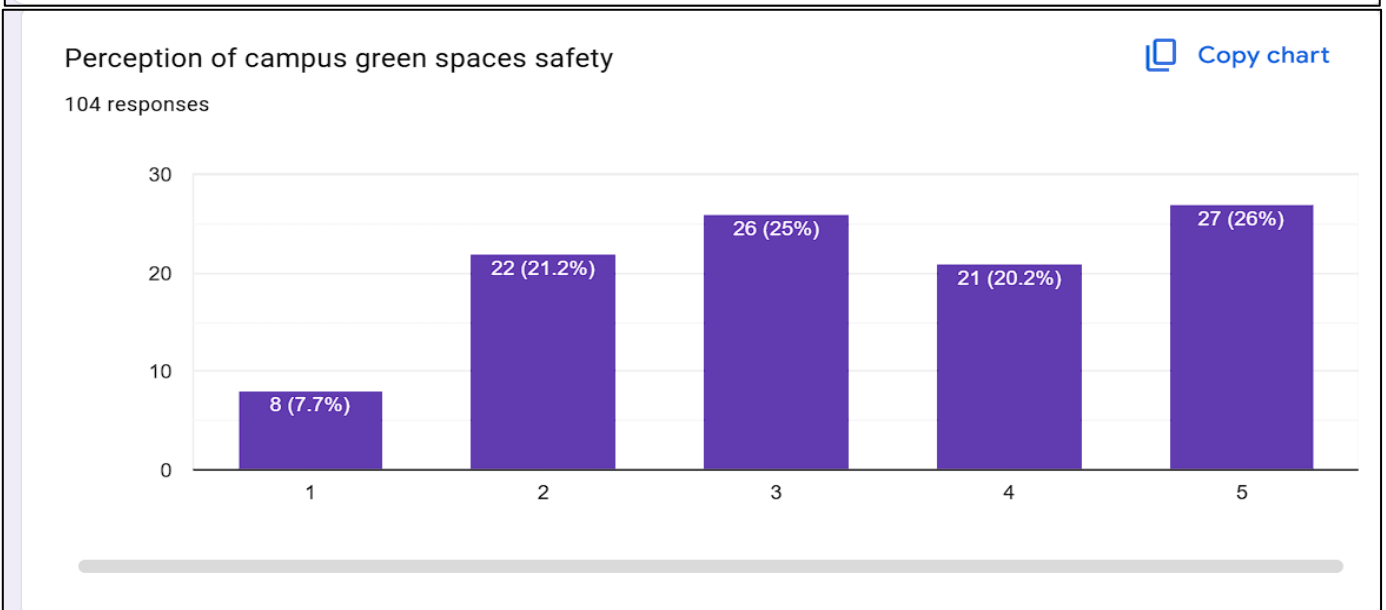
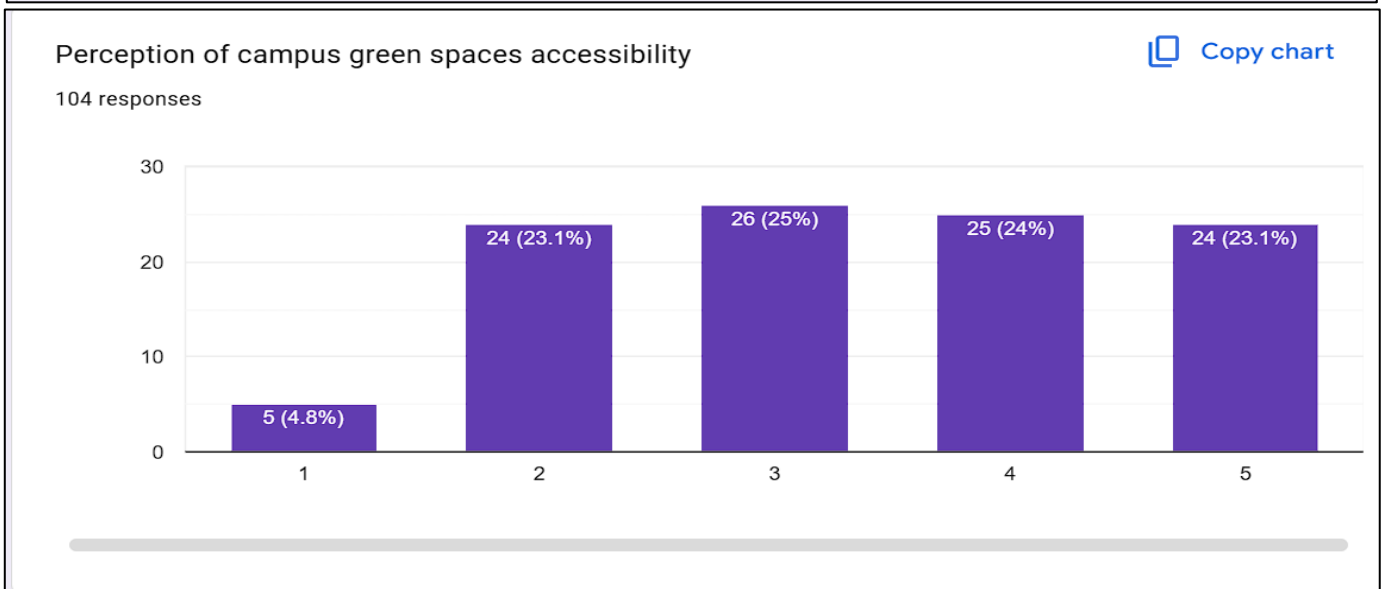
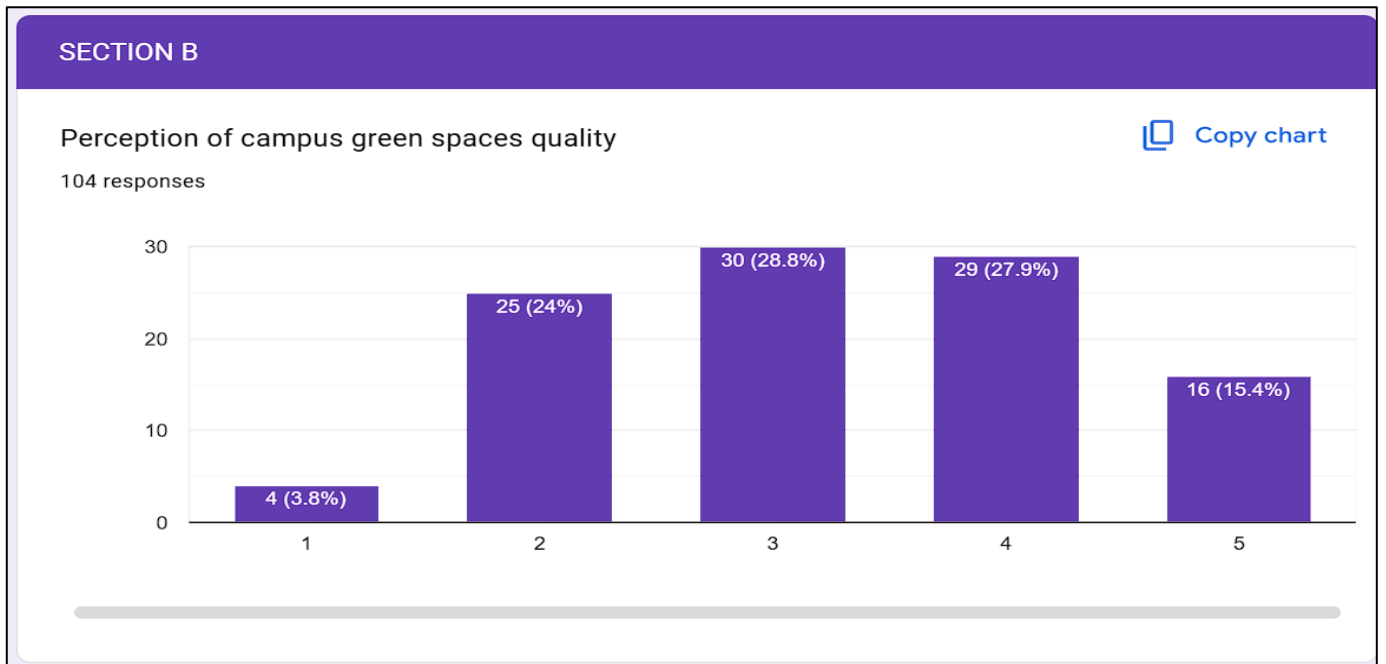
➤ *Ethical Considerations*

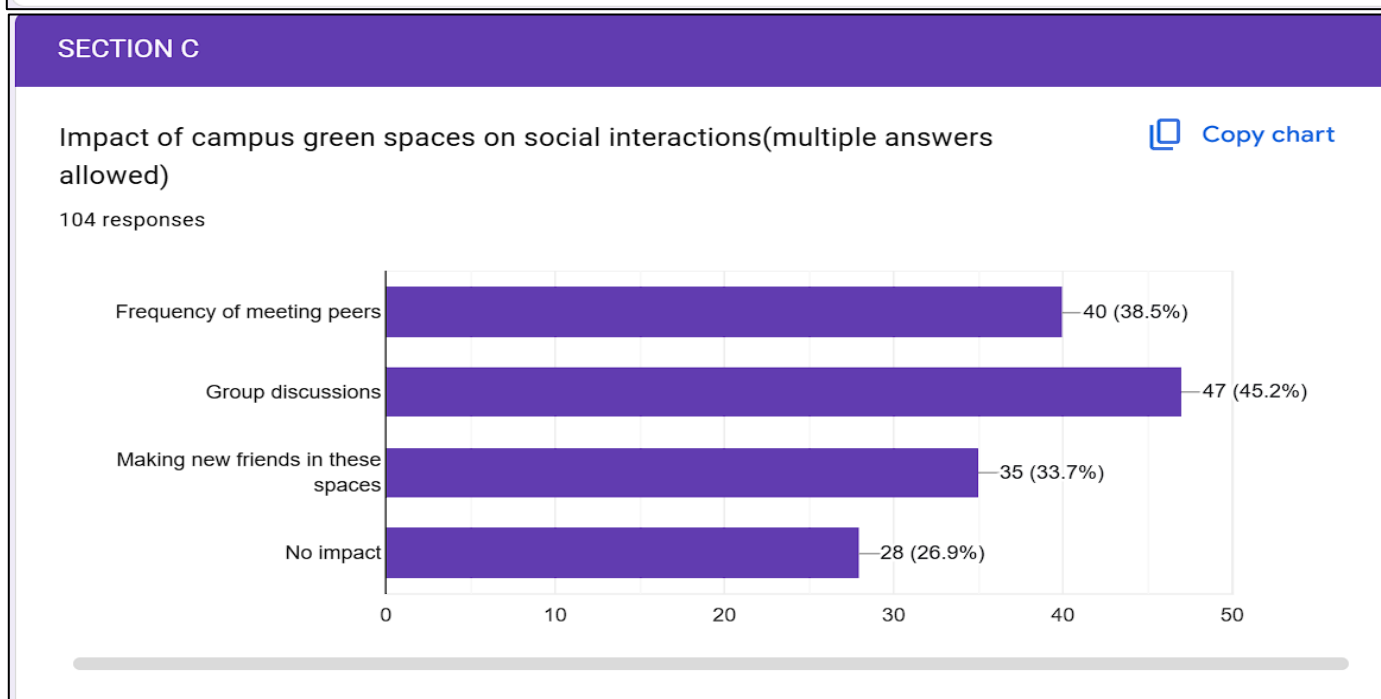
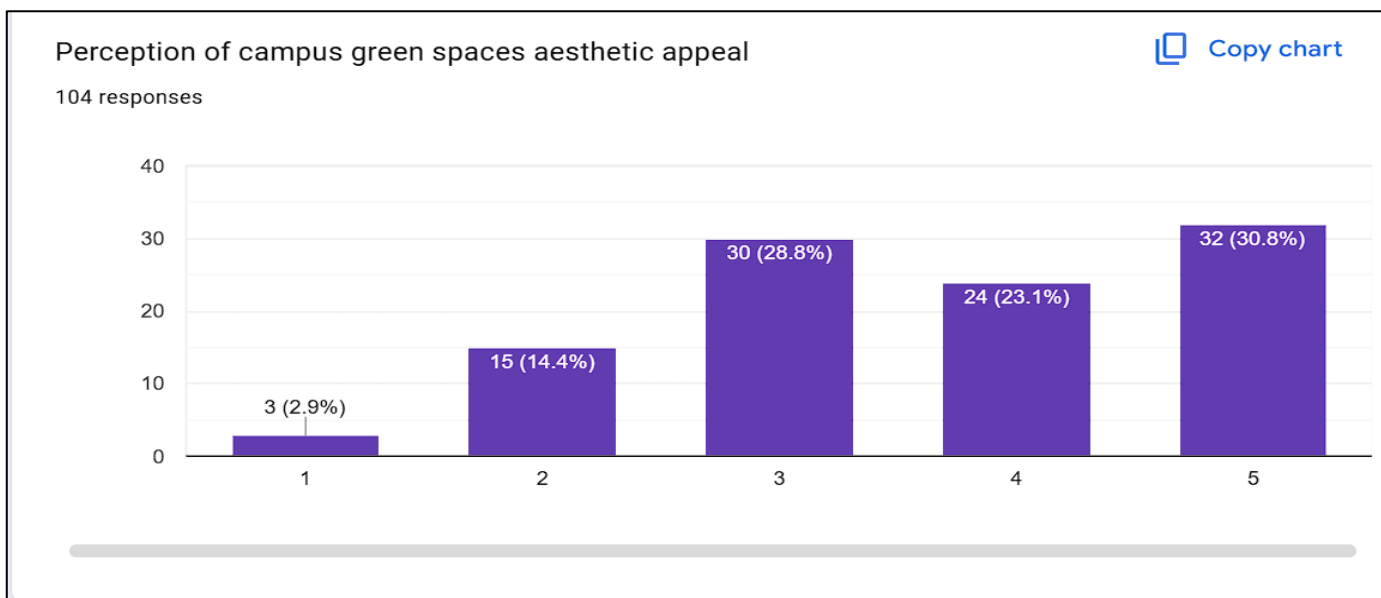
Participation in the survey will be entirely voluntary. An introductory section on the questionnaire will assure respondents of their anonymity and state that the data collected will be used strictly for academic purposes.

**IV. RESULTS AND DISCUSSION**









➤ *Demographic Profile of Respondents (Section A)*

A total of 104 responses were recorded for the survey. The demographic distribution indicates a young adult population, with the most prominent age group being 19 years old (23.1%), followed by 21 years old (14.4%). The gender distribution shows a female majority, comprising 60.6% of the respondents, compared to 39.4% male.

Respondents represent a wide array of colleges across the university. The highest participation came from CASPAS (26.9%) and COPAS (21.2%), with a notable representation from Architecture students (12.5%). Academically, the respondents are relatively experienced with the campus environment; the largest single group consists of 400-level students (25%), followed by 300-level (19.2%) and postgraduate students at the MSc 1 level (18.3%).

➤ *Perception of Campus Green Spaces (Section B)*

- *Note:*  
The scale utilized is 1 (Strongly Agree) to 5 (Strongly Disagree).
- *Quality:*  
The overall perception of the quality of campus green spaces leans negative. While 27.8% of respondents strongly agree or agree (ratings 1 and 2) that the quality is adequate, a combined 43.3% disagree or strongly disagree (ratings 4 and 5), with the largest single group (28.8%) remaining neutral.
- *Accessibility:*  
Accessibility is a significant concern. Nearly half of the student body surveyed (47.1%) disagree or strongly

disagree that the green spaces are easily accessible. Only 27.9% agreed or strongly agreed with the statement regarding good accessibility.

- *Safety:*

Perceptions of safety are highly fragmented but skew towards dissatisfaction. The highest frequency of responses was "Strongly Disagree" (26%), closely followed by "Neutral" (25%). Overall, 46.2% of respondents feel negatively about the safety of these spaces.

- *Aesthetic Appeal:*

This metric received the harshest critique. A dominant 53.9% of respondents disagree or strongly disagree that the campus green spaces are aesthetically appealing, with the highest concentration (30.8%) choosing "Strongly Disagree." Only 17.3% found the spaces visually pleasing.

- *Impact on Social Interactions (Section C)*

Despite the negative perceptions of the physical spaces, they remain vital for social cohesion. When asked about the impact of green spaces on social interactions (multiple answers allowed), almost half of the respondents (45.2%) use them for group discussions. Furthermore, 38.5% rely on these areas for the frequency of meeting peers, and 33.7% use them for making new friends. However, a significant portion of the sample (26.9%) reported that the green spaces have "no impact" on their social interactions.

The findings present a compelling paradox within the campus environment: while students actively rely on green spaces for academic and social engagement, the physical and functional quality of these spaces severely underperforms their expectations.

The demographic data reveals that the majority of respondents are upper-level undergraduates (300/400 level) and postgraduate (MSc) students. This is highly relevant, as these cohorts have spent multiple years navigating the Caleb University campus. Their critical assessment of the green spaces is not based on a brief first impression but on long-term user experience.

The heavy utilization of these spaces for "group discussions" (45.2%) highlights the critical need for collaborative, outdoor extensions of the classroom particularly for intensive, project-based disciplines like Architecture, which formed a notable portion of the respondent pool. Students are seeking out these areas to work and socialize, yet they are met with environments they deem aesthetically unappealing (53.9% negative sentiment) and difficult to access (47.1% negative sentiment).

Safety is another critical barrier highlighted by the data. With nearly half the respondents expressing discomfort regarding safety, the usability of these spaces is likely restricted to specific daylight hours or highly populated times, thereby limiting their potential to improve overall student well-being.

Ultimately, the data suggests that the university's green spaces are currently functioning as "spaces of necessity" rather than "spaces of well-being." Students use them because they need outdoor gathering areas, not necessarily because the spaces are inviting, safe, or well-designed.

These findings align with previous assertions that aesthetic quality significantly dictates the usage of campus open spaces (Ademakinwa, 2023).

## V. CONCLUSION

The research concludes that campus green spaces play an undeniable role in facilitating social interactions and academic collaboration among students. However, the current state of these spaces acts as a barrier to optimal student well-being. The predominant dissatisfaction with the aesthetic appeal, accessibility, quality, and safety of the green infrastructure indicates a significant gap between student needs and the provided built environment. For a green space to actively reduce academic stress and promote mental health, it must move beyond merely existing as an empty plot of land; it must be intentionally designed, easily accessible, visually stimulating, and secure.

## RECOMMENDATION

Based on the quantitative findings, the following actionable recommendations are proposed for campus planning and administration:

- *Targeted Aesthetic and Landscape Redesign:*

Given that over 50% of students find the spaces unappealing, immediate steps should be taken to introduce intentional landscaping. This includes planting shade-providing trees, incorporating vibrant flora, and maintaining manicured lawns to elevate the visual quality of the campus.

- *Creation of "Collaborative Pods":*

Since 45.2% of students use these spaces for group discussions, the university should install weather-resistant, ergonomic outdoor seating and tables. Providing semi-enclosed or shaded seating areas will support academic collaboration outside the traditional library or studio settings.

- *Comprehensive Safety Audit:*

The high level of safety concerns necessitates an environmental audit. The administration must improve site lines (by trimming overgrown foliage), install adequate nighttime pathway lighting, and consider integrating emergency call boxes or regular security patrols in secluded green areas.

- *Universal Accessibility Upgrades:*

With nearly half the respondents citing accessibility issues, future architectural and landscape interventions must prioritize inclusive design. This includes constructing paved, well-drained walkways connecting academic buildings to green spaces, and ensuring wheelchair-accessible ramps are integrated into the terrain.

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