

Introduction

The world is moving towards waste recycling in construction. We have previously shown the architectural and interior design students' attitude towards using recycled materials in building design (Authors, 2021), and to what extent they are prepared and willing to integrate recycled materials in their future design projects. However, the perception of using recycled materials in building design from people's point of view was not assessed. Furthermore, assessing the impact of waste integration in building structures on people's mental health, reception, and emotions still needs investigation.

Aims

This study aimed to assess people's design preferences after showing them different styles of recycled materials integration in building design. We discussed in a previous paper that supporting people's mental health is one of the most important factors in building design (Aljunaidy & Adi, 2021). Because of that, the study herein aimed to assess the effect of using recycled materials in building design on people's perception, and on stimulating positive emotions such as enjoyment, hope, and optimism.

Hypothesis

We hypothesized that people's perceptions, emotions, and acceptance of using recycled materials in building design are mainly driven by the final execution of the design.

Methods

An online survey was distributed to general public. Before filling in the survey, the participants watched two videos of a house built from recycled materials which were visible as recycled waste in the structure of the building (A), and a house built from recycled materials but not visible as recycled wastes (B). Descriptive statistics were used to summarize the data.



Buildings A & B. A: Renewable Home by Sbs Australia, Journeyman.TV (online). Available at: YouTube: https://youtu.be/_yahMHzbGn4. B: PENN. B. 2020 Mat and Danielle of Exploring Alternatives, and Mat of Exploring Alternatives (online). Available at: YouTube: https://youtu.be/6Hzs9_1ynE0.

Results

Effects of Different Designs on Visitors' Perception and Mental Health

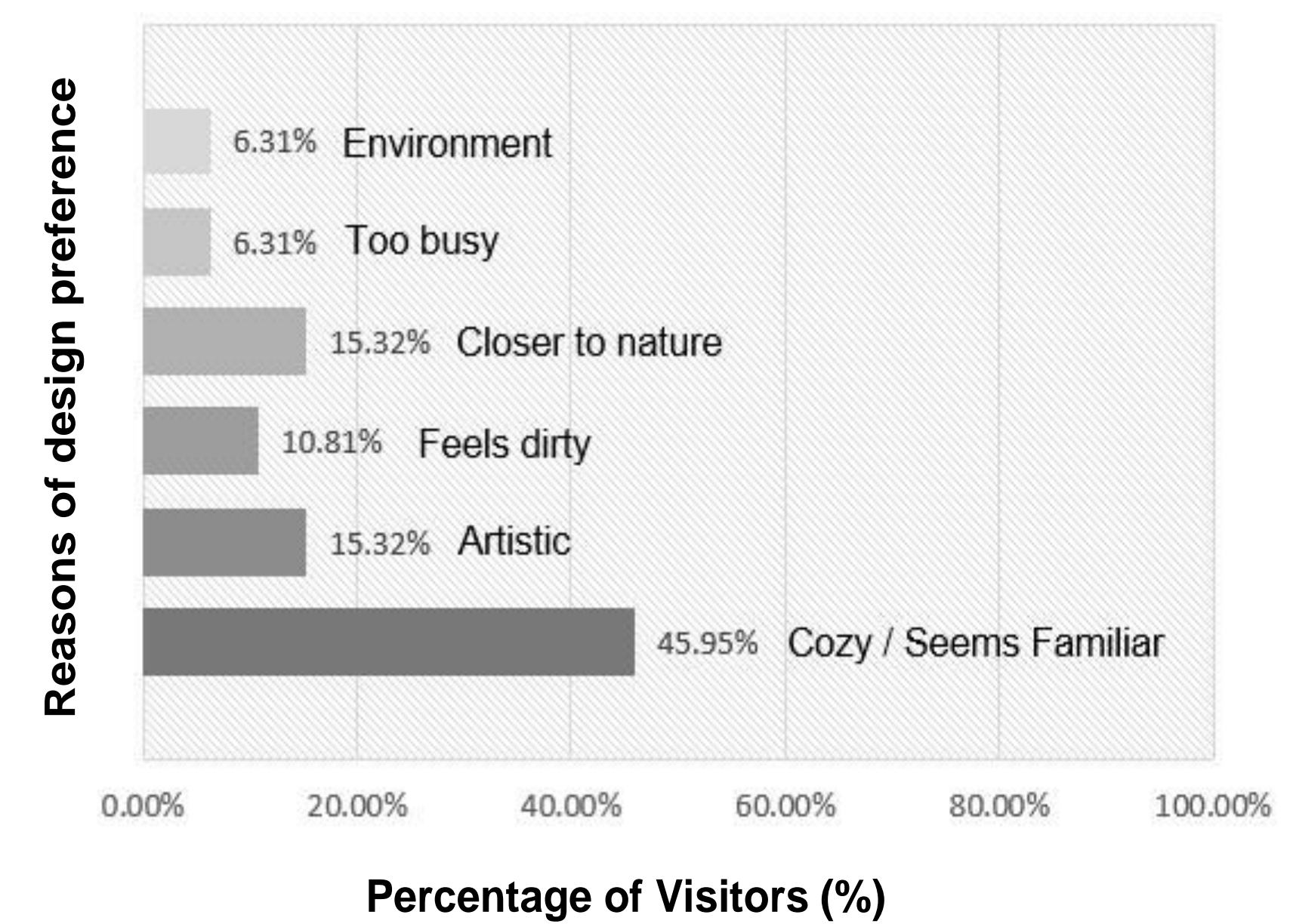


Figure 1. Reasons indicated by the visitors to justify their design preference after touring buildings A and B

Visitors' Perception of Integrating Recycled Materials in The Core of Their Own Buildings or As a Decoration in Their Buildings

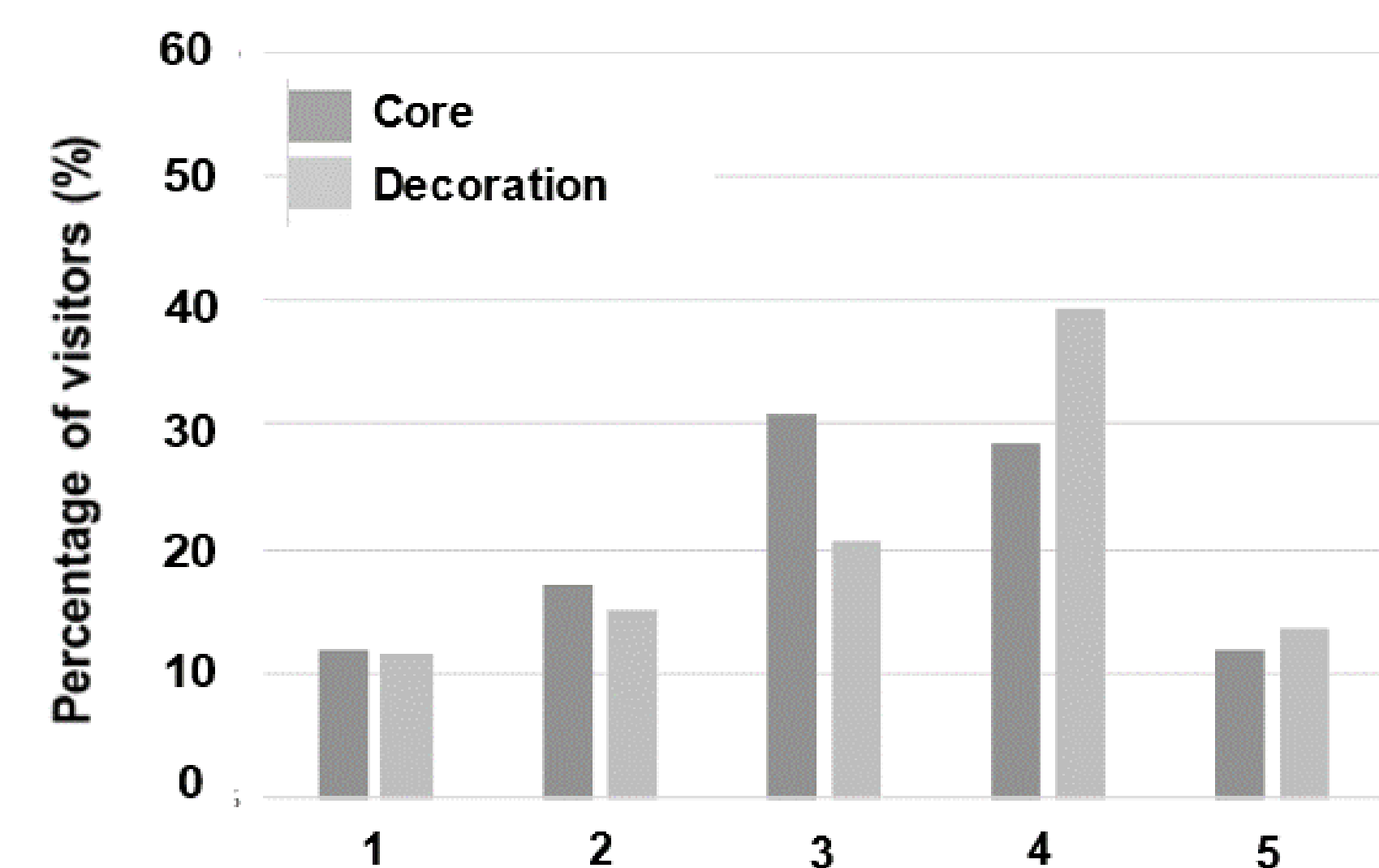


Figure 2. Reasons indicated by the visitors to justify their design preference after touring buildings A and B

Most study participants thought that the best ways were to create a unique shape or structure of the building design and to discuss with people the importance of recycling for the environment

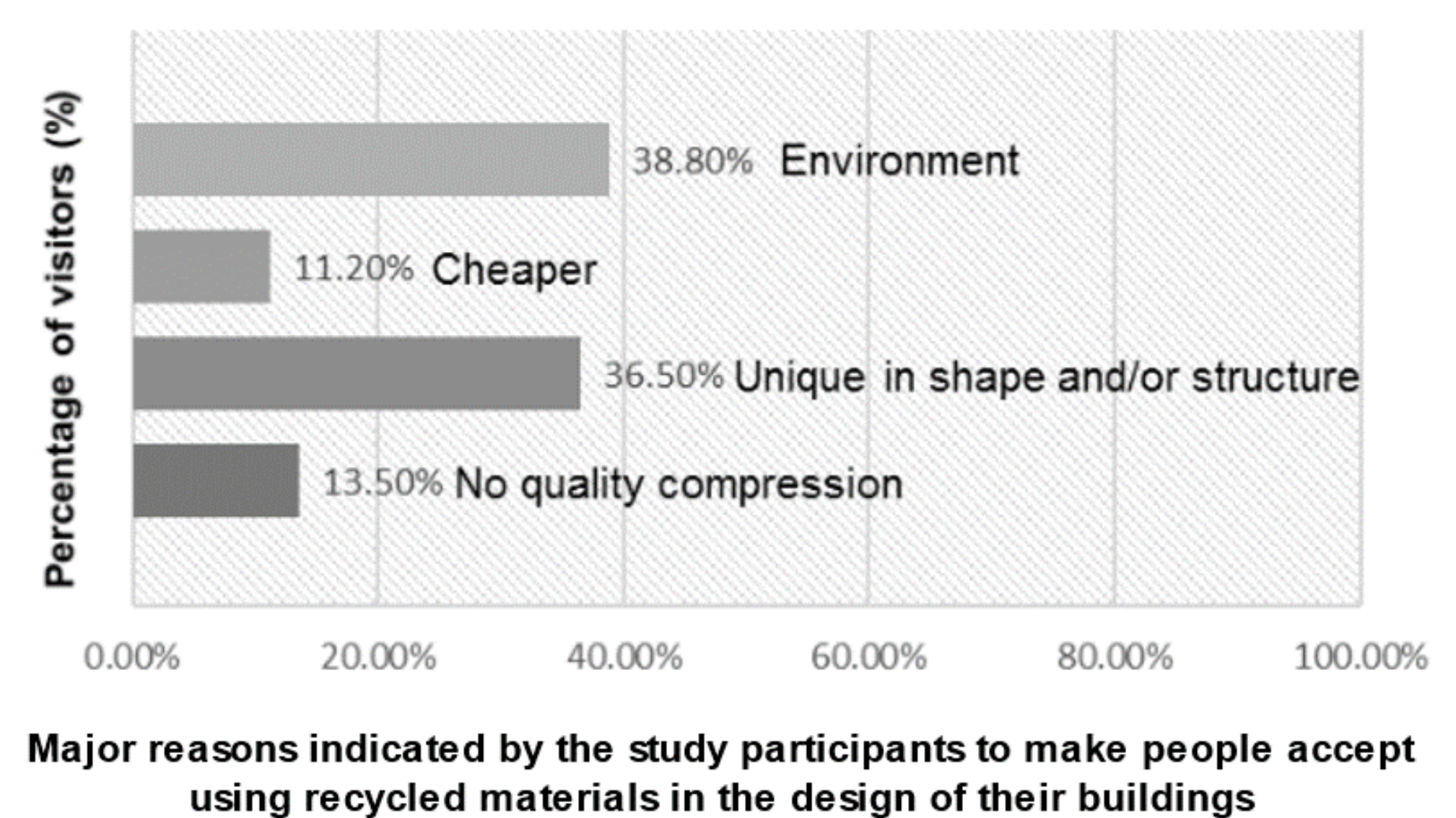


Figure 3. Reasons of why to accept using recycled materials in building design as reported by the study participants

Discussion & Recommendations

Using recycled materials in building design should be aimed to create a familiar and warm experience for the users and, when possible, avoid designing crowded spaces and buildings that clearly show that the materials used in them are recycled wastes. When trying to convince them to use recycling materials in their buildings, architects and interior designers should be informed about what people are interested in the most. For example, showing the clients how building designs can still feel familiar and cozy despite using recycled materials in their design and to explain the importance of recycling for the environment.

Reference:

MM Aljunaidy & MN Adi. Architecture and mental disorders, a systematic study of peer-reviewed literature. HERD. 14: 320-330. 2021