

## Proceedings of 26th Annual Technological Advances in Science, Medicine and Engineering Conference 2022

### Investigating the role of spatial configuration on pedestrians' spatial cognition

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#### Abstract

This study attempted to investigate the influence of spatial configuration on pedestrian behavioral patterns within a busy activity area. Accordingly, a combination of empirical axial line and visibility graph analysis was carried out using the Space Syntax technique and empirical observation of visitors' static and dynamic activities. In order to determine the behavioral patterns of individuals, two types of observation techniques on visitors have been investigated: gate counts and people following. Observations were conducted during peak hours. Besides, a comparison has been conducted in different spaces to evaluate the consistency of the findings. The results show that the spatial configurations and arrangements of spaces have a profound impact on the way that individuals percept their environments. This research contributes to urban designers, engineers, environmental psychologists and policymakers to create more legible spaces by promoting the level of wayfinding quality in various urban spaces.

Last modified: 2022-08-20

Building: TASME Center

Room: Science Hall

Date: August 28, 2022 - 11:05 AM – 11:20 AM

[<< Back to Proceedings](#)