

Review of: "Building Design Parameters for the Safety of Individuals with Autism Spectrum Disorder"

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Potential competing interests: No potential competing interests to declare.

I find the topic very interesting and up-to-date. Nevertheless, I think it is important to elaborate on some topics that are only hinted at in the paper, but from which the article itself takes its title. The purpose of the paper is of great depth, but as it is currently structured and discussed, it lacks scientific validity. It is for this reason that I report my suggestions below as a 'major review' in order to be enhanced and to be able to make the contribution the authors are aiming for. In the following mine suggestions divided for each Section. Please also adjust the structure of the paper with the comments listed below.

Introduction:

- All the sentences in the introduction are missing references. A topic cannot be introduced without citing relevant references to it. Below is an example: *"A safe built environment is an outcome of a human-centric building design approach that is not only accessible but inclusive and efficient in multiple respects. Individuals with disabilities face the brunt of fast-paced urbanization, contributing to a significant increase in misconduct towards individuals [ADD REFERENCE]. Crime and corruption are inevitable in a developing country, especially where there is a lack of strict regulations. A framework to create safe and secure built environments is imperative to establish a sense of relief among individuals who are more prone to be victims of adversities of this nature [ADD REFERENCE]. In the case of individuals with disabilities, per se, those belonging to the umbrella of neurodiversity, crime comes much later or may be manifested in the form of general misconduct. Individuals with Autism may be considered the weakest in the shadow of crime, in the sense that their general comprehension of the surroundings is only poor and implicates negative nuances on and through their behavioural responses [ADD REFERENCE]."*
- The position of Figure 1 in the introduction is misleading. This subdivision between victims and criminals in autism (criminal - a term I personally find misleading in this context) is not yet mentioned here.
- Check the reference "Maslow's Hierarchy of Needs Theory, 2022". If the paper in the main text is depicted as published in 1943, why in the reference the year is 2022?
- Figure 2 is of difficult readability, here some suggestions: increase the contrast between the "words" in white and the coloured pieces of the pyramid. Particularly in the lightest coloured cells, the white words are not very clear. I would suggest to modify the coloured words in black all over the pyramid to enhance the contrast.
- With reference to the following paragraph reference are missing, data are not justified and the only reference used is

slightly misleading. In italic bold my correction, and suggestions : *“Globally, there are about 1000 million persons with disabilities, or around 15% of the world's population, or one in every seven people [says who? add a reference]. Between 110 million to 190 million of these individuals struggle significantly with daily functioning [says who? add a reference]. A moderate or severe impairment is expected to affect 93 million children, or one in every twenty children under the age of 15 [says who? add a reference]. As populations age and the prevalence of chronic health issues rises worldwide, the number of individuals who experience impairment will continue to rise. Trends in environmental circumstances, health conditions, and other causes, such as traffic accidents, falls, violence, humanitarian catastrophes, including natural disasters and armed conflict, unhealthful diets, and drug addiction, affect national patterns of disability (Organization, 2015). (World Health Organization, 2015). Approximately 15% of adults in the world have a disability, apart from which there is an increasing number of the aging population. The concerned aging population is also at a high risk of disability with an exponential rise in cardiovascular, mental, and other such illnesses (Organization, 2011). (World Health Organization, 2011).”*

Risk Factors for Individuals with Disabilities

- The following sentence miss a reference. No assumptions can be made or papers cannot not be cited to justify a sentence when the problem, background or research question is still introduced. *“Around half a million adults become victims of interpersonal violence and end up losing their lives, while a few are subjected to adversities from socio-occupational consequences. [who said that? a report? please add a reference]*
- With reference to the following paragraph
- *"This information will only be fruitful if the following four-step approach is undertaken:*
Step 1: Identification of the individuals with disabilities in the country. (Followed by listing their details at the city level).
Step 2: Identification of the needs, risk factors, and violence faced by individuals with different disabilities. (This includes documentation of their experiences and requirements).
Step 3: Designing the built environment such that it not only provides comfort but also establishes a sense of security among people (including caregivers).
Step 4: Lastly, it is important to set up a system of communication in public as well as private buildings- especially in the case of an emergency." **These steps are the summarization of the human centered design approach. It should be briefly mentioned (with a reference) and make it a bit easy to understand the correlation between this approach and what mentioned before in beginning of section 2 on the increasing risks that nowadays are even more common.**
- The following sentence is misleading or not properly discussed: *“In many cases, individuals with a disability may inflict self-harm or harm those around them as well (The Arc's Autism Now Center, 2023). This is most prominent in the case of individuals with Autism Spectrum Disorder and other neurodivergent conditions.”* I would suggest modifying it like this **“This become an even more powerful approach to enhance the safety of fragile people. Indeed, in many cases, individuals with a disability may inflice self harm etc....”**

Society and Disabilities

- *Individuals showcasing disabilities* → It is preferred to use "individuals with disabilities" instead of showcasing.
- *"Early case studies suggest an association between Autism Spectrum Disorder and violence"* Please describe with more sentences what described by Baron-Cohen and Mawson on the correlation between ASD people and violence. It is the main topic of the paper but idt firstly introduced in the fifth page of the paper. I would also suggest to move this part in the first section of the paper where the Figure 1 was mentioned. What described in Fig.1 is clear only now (after 4 pages).
- *"In many instances, individuals with Autism may resort to self-harm or may cause harm to the environment by being triggered due to unfavourable environmental conditions. The difficulties in cognition of individuals with Autism adversely affect their responses in society. There have been a lot of cases of individuals with Autism offending the US Criminal Justice System (Blackmore et al., 2022)"* → **Is it this the only case? It is important to highlight if the case of an ASD individual as criminal? If so it is importat also to highlight that he was unaware to harming others and also maybe to highlight if the public officers were used to deal with people having a meltdown in public. It is important to spend more words on this paragraph. Furthermore meltdowns and the crisis of ASD were never mentioned before in the text and should be introduced at least in the first section (Introduction) and deepened in the second section (Risk Factors for Individuals with Disabilities).**
- *"A lot of information is available on interpersonal violence, child maltreatment, and bullying of individuals with Autism Spectrum conditions, which can further be classified as intimate partner violence, youth peer pressure, and other forms of victimization. (Hamby & Grych, 2012) As it is, individuals with Autism have a lot of impairments in social communication and social interaction across multiple contexts and showcase constrained interests and/or repetitive body movements and mannerisms. (Association, 2022)." → **As mentioned before the role of Figure 1 is only now clear. It is important not only to spend more words on all the scenarios in which people in the spectrum were victim of violence and abuses, but describe which type of violences the suffered. It will help later to have background information on the risks to minimize to create a better environment.***

CPTED and the Built Environment

- It is the first time that the term "CPTED" is used and it used in the main title of the current section. It is important to use the extended version the first time. It will help the reader also to have a vision of what will be described in the section.
- *"This statement might appear to hold relevance only in the case of women and girls. However, it has proven to be crucial for the complete umbrella of disabilities."* → **It is also valid for all genders? if yes highlight that The United Nation in 2007 expressed that is not a matter of gender, but of vulnerability.**
- *"The **UNCRPD** states that people with disabilities have an equal right to social protection. Safety nets are a type of social protection intervention that focuses on vulnerability and poverty (United Nations, 2007)"* → **UNCRPD** what it is? United Nations CRPD? If yes I would suggest to write as it is.
- *"In the Indian context, Chapter 5: Social Security, Health, Rehabilitation, and Recreation, of The Rights of Persons with*

Disabilities Act talks about "Social Security" as a key driving force in the survival of individuals with disabilities, while Chapter 2: Rights and Entitlements, looks into their protection and safety (The Rights of Persons With Disabilities Act, 2016, 2016)" → Please after this before mentioned sentence, briefly comment the results showed in Table 3

They are just listed and not discussed.

- 4.2. Crime Prevention Through Environmental Design → **CPTED is in the title of section 4 but is mentioned and explained only in 4.2. Thus it is important when it is mentioned for the first time to not use acronym the first time.**
- "This process is beyond the use of locks, gates and alarms to secure buildings. CPTED strategies are implemented through an overlap between three methods, as shown in Fig 3. (Atlas, 2013)." → **Please discuss with some more words what is expressed in Fig.3**
- "The applicability of CPTED is beyond essential in the case of public buildings, especially in schools, transit hubs, and office buildings.

a. CPTED involves certain concepts for the fulfillment of a secure architectural design; the following is the list of the same. [For what I understood so far, the first point is the description of the bullet point following (from b to e).

Please remove the bullet point from the a) point]

b. Natural Surveillance: This is an observational intervention wherein the provision of legitimate eyes on users of space keeps them in check. The ultimate goal should be to increase the population density in areas that are more prone to crime.

c. Natural Access Control: This concept dwells on the idea of boundaries, where access beyond a certain point is controlled; this may be through doors, fences, or shrubs. Psychological barriers may also play a crucial role in access control, with the help of signages, nature strips or directional pathways.

d. Territorial Reinforcement: Territorial control is essential to keep intruders at bay, and this may be achieved by expressing spatial ownership. A sense of belonging among users keeps them safe and helps them extend a sphere of influence against imposters.

e. Maintenance and Management: The physical image of an area may contribute to a major extent to its level of security, and this can be achieved mainly through the maintenance and management of pre-existing safety systems."

- "The built environment plays a crucial role in establishing a sense of security among individuals with Autism, but also instilling it in real-time. However, the reverse is also true. An unfavourable environment is adequate to disorient an individual with Autism, followed by increased crime in the picture" → **4.3 is the focus of the research of the paper. It should be deepened and enriched with information. What has been researched so far? What is missing? Is it been investigated globally or only few nations performed studies on the built environment for people with disabilities? It is important to introduce the research question before the discussion of results (showed in Materials and Method)**

Between Section 4 and 5

- A small section with Materials and Methods should be added in which Authors will explain how the literature research

was performed, Which database was used to research paper on the topic and with what keywords etc.

Materials and Methods

- This section shows the results of the literature research, it should be called "**Results of the literature research**"
- “ *The answer will be the guiding light to understanding the inter-relationships between the public realm and people experiencing neurodiversity (Guaralda et al., n.d.)*” -→ **The paper of Guaralda et al was published in 2013, please adjust accordingly and verify all the publication already cited on google scholar**

Results

- This section appears to be more a **Discussion Results** that just Results.

Between Sections 6 and 7

- A section named "**Suggested Guidelines from the Authors**" should be added here. A summary of the **User Centered Approach** and all the main results of the Section 6 should be summarized to the reader.

Conclusions

- Please add few words on the suggestion for further researcher that are needed from your perspective.