# Article information:

Effect of audio-visual interaction on soundscape in the urban residential context: A virtual reality experiment - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S0003682X22000913>

# Article summary:

1. The quality of the urban sound environment is important for health and well-being, and soundscape studies are proposed to investigate the positive and negative influences of urban sound.

2. Audio-visual interactions significantly influence the perception of soundscape, but there is a lack of research focused on residential areas in high-rise and high-density cities.

3. This study conducted a virtual reality experiment to investigate the independent and interaction effects of aural and visual indicators on soundscape descriptors in residential precinct gardens. Results showed that traffic sound had an independent effect on pleasantness, while greenery had an interaction effect with other indicators on pleasantness.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Effect of audio-visual interaction on soundscape in the urban residential context: A virtual reality experiment" discusses the importance of creating a good sound environment in urban areas and proposes the use of soundscape studies to investigate this issue. The article highlights that traditional noise control methods that aim to reduce sound levels do not necessarily lead to better acoustic comfort and acceptance. Instead, researchers propose using soundscape studies that consider both negative and positive sounds, objective measurement, subjective perception, and the context.

The article presents a VR experiment designed to investigate the independent and interaction effect of aural and visual indicators on soundscape descriptors in residential precinct gardens. The study found that traffic sound was the only indicator that affected pleasantness when tested independently. However, when considering the interaction effect of aural-visual indicators on soundscape descriptors, greenery was found to have a significant positive effect on pleasantness.

While the article provides valuable insights into the importance of considering both aural and visual elements in creating a good sound environment in urban areas, it has some limitations. Firstly, the ecological validity and realism of the VR experiment were not tested. Secondly, while the study focused on residential precinct gardens, it did not consider other types of residential areas such as apartments or houses with different architectural designs.

Additionally, while the article acknowledges that there is still debate about the relationship between soundscape descriptors, it does not explore counterarguments or present evidence for alternative models. Furthermore, while discussing previous studies' findings about audio-visual interactions' effects on soundscape descriptors in commercial areas and recreational areas like parks, it does not provide enough evidence for these claims.

Overall, while providing valuable insights into creating a good sound environment in urban areas through soundscape studies that consider both negative and positive sounds, objective measurement, subjective perception, and context; this article has some limitations regarding its methodology's ecological validity and realism. Additionally, it could benefit from exploring counterarguments or presenting evidence for alternative models while discussing previous studies' findings about audio-visual interactions' effects on soundscape descriptors.

# Topics for further research:

* Alternative models for soundscape descriptors in urban areas
* Ecological validity of virtual reality experiments in soundscape studies
* Effects of audio-visual interactions on soundscape in commercial areas
* Soundscape studies in different types of residential areas
* Subjective perception of soundscape in urban environments
* Positive sounds and their effects on acoustic comfort in urban areas

# Report location:

<https://www.fullpicture.app/item/30f2a99e386bed3bca58a44f2c6ff3de>