Chapter 6
Influence of Soundscapes on Perception of Safety and Social Presence in an Open Public Space

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ABSTRACT

This chapter addresses the effect of different soundscapes on the perception of safety and the feeling of social presence in an urban open space. The investigation was conducted through the virtual reproduction of different scenarios submitted to participants’ evaluation through a laboratory test. A subjective assessment test with a three-level factorial design was implemented in which participants had to rate 18 different audio-visual scenarios with respect to their safety and social presence perception. The scenarios presented three different views of a pedestrian passage in which different acoustic conditions were tested, namely the presence of traffic noise barrier and of classical or jazz music background. The results of statistical analyses showed that background music improved the perception of safety and the social presence feeling. In detail, jazz music was the stimulus that reported higher scores in these evaluations, with respect to classical music. Finally, music influence on social presence resulted to be significantly higher for female participants than for male ones.

DOI: 10.4018/978-1-5225-3637-6.ch006
INTRODUCTION

At the beginning of the 1980s, Ronald E. Milliman analysed the effects of background music on customers and employees in different contexts. He found that music played in the background of production facilities, e.g. offices and retail stores, could improve stores’ image and employees’ mood, reduce employees’ turnover and stimulate costumers’ purchases (Milliman, 1982). Furthermore, music could also improve employees’ work performance: a study showed that, when no music was played in the background, the overall quality of work as well as employees’ reported mood levels were lower. Thus, music can be a tool to stimulate both the employees’ positive mood and the work quality and quantity (Lesiuk, 2005).

More recently, the focus moved also to open air and large-scale public spaces. Researchers in social sciences and urban planning and design for public spaces have shown a growing interest towards the potential effects of sound environments manipulation. An interesting study explored the possible influence of sound in mitigating anti-social behaviours and improving the use of urban spaces (Lavia, Witchel, Kang, & Aletta, 2016). In particular, introducing music in specific environments, likely to turn into “no-go” areas, might represent a viable countermeasure. The “West Street Story: come together” initiative was an experiment aimed at demonstrating that music played in the streets increased people’s presence and decreased anti-social behaviours and the possibility of violent events. A similar experiment, called “The tunnel”, was conducted in a pedestrian subway in order to prove the safety potential of soundscape. Results revealed that background music led to a decrease of commuters’ walking speed and to an increase of loitering phenomena (Easteal et al., 2014).

Another study by Aletta, Lepore, Kostara-Konstantinou, Kang, & Astolfi (2016) in a pedestrian passage at Sheffield University also aimed to further support the claim that music implementation in public open spaces increases the degree of perceived safety. Two loudspeakers were used to playback different music excerpts. The number of people stopping nearby, as well as the amount of time spent in the passage, were measured under different background conditions (absence of music, ambient, classic or jazz music). Results revealed that music manipulation did not influence the number of people stopping in the passage, but had a positive effect on the average time spent in the passage. Specifically, among the different music genres, classic music was more influencing than ambient or jazz music (Aletta et al., 2016).

Several studies explored music modulation of affective processing in stressful or dangerous situations. They tried to insert different background music in public spaces, such as squares and streets. Results showed that participants rated music scenarios as more reassuring than natural sounds or silence (Schafer, T., Huron, D., Shanahan, & Sedlmeier, P. 2015). Accordingly, another study revealed that music increases perceived safety and social presence feelings: after having watched a video of an underground car park or a metro station participants were invited to evaluate their perceptions. The video was recorded in first person perspective (i.e. participants were not able to see their own body) and included realistic environmental sounds (i.e. participants’ own footsteps) in each of the four conditions (instrumental music, animal sounds, silence, vocal sounds). The results showed that participants judged the conditions including vocal music as safer in comparison with those with animal sounds (bird sounds), silence or instrumental music. Consequently, they reported that they felt encouraged to frequent the place and to purchase something. (Sayin, Kishna, Ardelet, Decrè, & Goudey, 2015). Except for the analysed music conditions, this research seems to be similar to the present study: both of them investigate the same objectives and reproduce the reality in a laboratory. Anyway, Sayin and colleagues did not calibrate the acoustic model but used a recorder without controlling the music parameter; they also did not consider the control of another important parameter, such as light.
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