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EXPLORING SOUNDSCAPE PERCEPTION THROUGH THE ITALIAN LANGUAGE: A STUDY ON DESCRIPTIVE WORDS FOR NOISE AND SOUND

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ABSTRACT

This study investigates the linguistic description of soundscapes in seven port and hinterland areas in Italy, focusing on the perceptual aspects of remembered or heard sounds. Adjectives associated with the Italian nouns “rumore” (*noise*) and “suono” (*sound*) were extracted from large linguistic corpora and presented in a linguistic-acoustic questionnaire, allowing participants to select those most descriptive of the sounds they perceived.

Through the analysis of responses, a four-point scale was constructed, ranging from “silenzioso” (*silent*) to “molto rumoroso” (*very noisy*), with significant adjectives identified for each level. This scale offers a structured framework to interpret and classify soundscapes, linking linguistic descriptors to specific acoustic environments and sound sources.

The findings highlight the importance of integrating linguistic and perceptual approaches to capture the subjective and cultural dimensions of soundscapes. By offering a language-specific perspective, this research aims to support a deeper understanding of auditory perceptions and inform urban and environmental planning in culturally sensitive ways.

Keywords: *sound perception, linguistic analysis, subjective survey, port noise, sound characterisation*

1. INTRODUCTION

Sound perception is a multidisciplinary field encompassing medicine, ecology, and architecture. Traditional quantitative methods, such as equivalent sound levels (Leq, LAeq), often fail to capture the emotional and subjective responses elicited by sounds [1]. Psychoacoustics highlights that noise perception is shaped not only by the physical intensity of sound but also by individual interpretations and psychological factors, thus underscoring the importance of adopting a qualitative approach to the study of sound [2].

Language plays a critical role in this process, providing a framework through which sensory experiences are articulated and understood [3]. The words we use to describe sound shape our perceptions of it, reflecting both cultural norms and personal experiences. This understanding is essential for addressing broader issues related to well-being, health, and the environment, particularly in urban areas, where the interplay of these factors significantly impacts the quality of life.

The European Landscape Convention (2000) [4] marked a pivotal moment in recognizing how collective perception shapes the identity of a place. Well before the Convention, attention to environmental perception had already extended beyond the visual to include the auditory dimension. In the 1960s, Michael Southworth and R. Murray Schafer [5, 6] introduced the concept of soundscape, emphasizing that sounds, like visual elements, play a fundamental role in defining spatial experiences.

Despite the growing recognition of the importance of auditory perception, there remains a gap in systematic studies focused on the language used to describe sound.

Understanding the semantics of sound-related terms can provide deeper insights into how we interpret our acoustic environment. This need is particularly evident in multicultural research contexts, where translating sound

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perception terms requires sensitivity to cultural nuances for accurate conceptual understanding.

For example, the translation of *quiet areas* into Italian as *zone silenziose* led to restrictive interpretations of noise regulations, distorting the original intent of European legislation. Our study examined linguistic and cultural variations in sound perception through Italian and French corpora, identifying adjectives linked to “rumore” (*noise*) and “suono” (*sound*) in Italian and “bruit” and “son” in French. This analysis revealed how cultural differences shape perceptions of the soundscape.

By analyzing terms within their linguistic context, we gain a more nuanced understanding of sound experiences, helping to avoid misinterpretations and fostering respect for cultural diversity. This study underscores the importance of a culturally informed approach in international research, ensuring that sound perception is represented accurately across different languages and contexts.

Despite advances in sound perception research [7, 8, 9], there is still much to explore regarding the language used to describe sound environments. Our study focused on adjectives associated with noisy and quiet spaces, aiming to provide insights into the terminology that characterizes these environments.

2. METHODOLOGY

This study, part of a cross-border cooperation project between Italy and France [10], aims to enhance the sustainability of commercial ports and their logistics platforms, addressing high noise pollution levels in areas between ports and logistics hubs. These zones, often marked by intense freight and vehicle traffic, present significant acoustic challenges affecting the environment and local quality of life.

The project's primary goal was to create a joint strategy to reduce noise pollution by optimizing traffic flows and minimizing the acoustic impact of logistics activities. Efficient traffic management not only promotes environmental sustainability but also improves livability for nearby communities.

Beyond logistics, the project also focused on the perceptual dimension of the soundscape. Understanding how local populations perceive port and logistics sounds is crucial for supporting policymakers in planning and balancing economic development with community well-being.

Language plays a key role in this context. It reflects the experiences and cultures of communities, shaping perceptions of the soundscape. This study investigates noise perception in port and hinterland areas, combining

subjective questionnaire data with objective sound recordings.

The research involved multiple phases: identifying areas of interest, recording characteristic sounds, selecting descriptive adjectives for the questionnaire, and administering it across seven pilot areas.

2.1 Study areas

The study areas include seven locations in different pilot territories: Livorno and Lucca in Tuscany (Italy), Sassari and Porto Torres in Sardinia (Italy), Genoa in Liguria (Italy) and Toulon and La Seyne-sur-Mer in the Var region (France). Each area within the port or retro-port contexts represents a distinct environment shaped by social, economic and natural activities, ranging from industrial sounds to rural noises and port-specific acoustics. The study also includes areas further away from the port, such as Lucca and Sassari. Although these areas are geographically distant, they are significantly affected by port activities, as they serve as key hubs for the traffic and processing of goods. For example, the paper mill districts on the outskirts of Lucca and the industrial area of Sassari highlight how these regions remain closely connected to Livorno and Porto Torres, respectively, contributing to the distinctive soundscape of each territory.

2.2 Recordings

The noise associated with port and hinterland infrastructures is a complex form of acoustic pollution. The noise includes typical port sounds, such as ships and machinery, and noises from surrounding areas, like cranes and road and rail traffic. To capture this complexity, the sounds characteristic of the locations were recorded on-site, and locations that best represented the acoustic profile of each area were carefully selected. For example, we recorded road traffic in Lucca and Toulon to capture the distinct soundscapes of each location.

Up to four sound level meters were used to measure psychoacoustic parameters, while two digital recorders captured 16-bit audio at 44,100 Hz. The recordings were brief, typically lasting a few minutes for constant noises and up to several dozen minutes for more variable sounds. The data analysis involved creating spectrograms and extracting key acoustic events, from which we selected 10-second normalized sound samples. These samples, consisting of sounds like seagulls, crickets, cranes, boarding and disembarking operations, chainsaws, forklifts, level crossings, ship sirens, vehicle traffic, and rail traffic, were later included in the questionnaire.





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2.3 Adjectives

This study adopted an approach based on large textual corpora to explore the cultural and linguistic nuances of Italian and French. The primary objective was to collect many authentic examples, an essential condition for developing reliable statistical models that accurately reflect the linguistic peculiarities of both languages. The use of large-scale corpora, as suggested by Sinclair [11], enables a more accurate analysis of lexical distribution and grammatical structures within a given context.

In particular, several linguistic web corpora were used: vast digital archives consisting of texts extracted from various online sources, including journalistic articles, literary works, social media posts, blogs, and other written content. The use of these corpora allowed for an examination of how the language is effectively used by speakers, thus providing a solid empirical basis for linguistic analysis. The methodology adopted aligns with the perspective of Biber et al. [12], who argue that corpora represent a fundamental resource for quantitative linguistic analysis.

The corpora employed underwent a tokenization process, which involves dividing the text into basic linguistic units (words or sentences), followed by lemmatization to normalize each term to its base form (for example, the verb “went” became “go”). Additionally, grammatical annotation assigned each term its corresponding morphosyntactic category, such as verb, noun, or adjective. These operations are essential to ensuring a high-level linguistic analysis, as highlighted by McEnery and Hardie [13].

Incorporating morphosyntactic information into the corpora enabled the extraction of a targeted sample of adjectives and nouns linked to the lemmas “suono”-“son” (*sound*) and “rumore”-“bruit” (*noise*). Further statistical and linguistic analyses explored these terms, focusing on the most frequent collocations and examining how the two lemmas behave in different usage contexts. This approach follows the perspective of Stubbs [14], who emphasizes the importance of collocations in lexical meaning analysis.

The statistical investigations focused mainly on the data extracted from various linguistic corpora. The analysis of these corpora included absolute frequency, relative frequency, and lemma dispersion. We examined the adjectives from the corpora to determine usage trends and discrepancies. We subsequently applied a reduction process based on linguistic and statistical criteria to streamline the initial set of adjectives. The process included eliminating adjectives with low co-occurrence, normalizing through synonymy and polysemy, and filtering out less relevant elements using linguistic rules. This approach is consistent

with the methodologies commonly used in computational linguistics, as highlighted by Kilgarriff and Grefenstette [16].

For Italian, the analysis also included a comparison with data from a preliminary questionnaire administered to a group of students at the University of Pavia [15]. This questionnaire provided additional insights into adjective usage, subsequently compared with the corpus data to examine possible discrepancies and trends specific to the Italian language.

2.4 Questionnaire

The online questionnaire explored participants’ acoustic perceptions through three sections. The first collected demographic data, including gender, age, origin, and hearing ability, and allowed participants to select a relevant investigation area, which determined the audio recordings they would hear later.

In the second section, participants described a street in their chosen area, providing personal impressions of its soundscape by selecting adjectives from a predefined set.

The third section involved listening to recordings from pilot locations, identifying the dominant sound source, and selecting adjectives from the same linguistic sets categorized into Evaluation, Strength/Type, and Space/Time, requiring at least one choice per group.

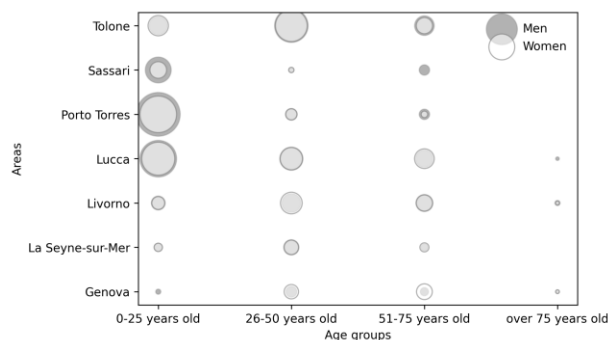


Figure 1. Age groups and areas with gender distinction

The respondent sample, shown in Figure 1, represented the areas under study and ensured demographic diversity. The sample included 46% women and 54% men, with 50% under 25, 32% between 26 and 50, and 18% over 50. Regarding education, 35% had completed high school, 31% secondary school, 9% held a bachelor's degree, and 12% had a master's or higher. A combined 13% had a doctoral degree, vocational training, or only primary school education. Regarding hearing ability, 52% rated their



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hearing as excellent, 37% as good, and 11% reported a lower level of hearing, with 1% of this group using a hearing aid. This diversity provided a representative group for sound perception experiences.

3. RESULTS

This study was conducted on both Italian and French. So far, we have discussed findings related to both languages; however, in the following section, we will focus specifically on the results obtained for Italian.

3.1 Initial observations and analysis

In the first section of the survey, participants rated the soundscape of a street of their choice, using a five-point scale ranging from *very quiet* to *very noisy*. They then identified the most relevant sound source from categories including vehicular traffic, railway, airport, port activities, industrial noise, neighbourhood sounds, human activity (daytime or nighttime), and natural or atmospheric elements.

After classifying the street according to these scales, participants selected at least one adjective from a predefined list.

We initially decided to create word sets based on these classifications. As a result, five documents were compiled for noise, one for each noise level and, in the same way, ten for sound sources. A TF-IDF (Term Frequency-Inverse Document Frequency) analysis was conducted, followed by NMF decomposition.

Regarding the first question, we divided the data into five topics, aligning with the five response options. The analysis revealed a clear association between each topic and a specific noise level, identifying distinctive linguistic patterns for each category. We selected only the words with the highest weights, which represented 50% of the total weight, to highlight key descriptors for each noise level.

For *quiet* or *very quiet* places, adjectives like “naturale” (*natural*), “rilassante” (*relaxing*), “sopportabile” (*bearable*), and “innocuo” (*harmless*) suggest a positive and reassuring perception, often linked to natural or domestic settings. In *very quiet* places, words like “soffuso” (*soft*) and “leggero” (*light*) indicate subtle, almost imperceptible sounds that contribute to a peaceful sense of isolation. In *quiet* places, terms like “gradito” (*pleasant*) and “avvolgente” (*enveloping*) reflect a contained and comfortable soundscape.

Conversely, *noisy* and *very noisy* places are associated with adjectives like “eccessivo” (*excessive*), “fastidioso” (*annoying*), and “insopportabile” (*unbearable*), highlighting

a persistent disturbance that negatively affects well-being. Terms like “artificiale” (*artificial*), “urbano” (*urban*), and “motore” (*engine*) emphasize a human-made soundscape, often linked to traffic and industry, distancing it from nature. In *very noisy* places, words such as “nocivo” (*harmful*) and “insostenibile” (*unsustainable*) suggest potential health risks.

Overall, these adjectives show that quieter places are perceived as spaces of relaxation and well-being, whereas noisier ones evoke artificiality and discomfort.

We also analyzed the responses regarding the dominant sound source to see if there were correlations between the adjectives used and the identified sources. The results show that each topic aligns with one of the response options, demonstrating a strong correspondence between specific sound sources - such as vehicular traffic, industrial activity, or natural elements - and the adjectives used to describe them.

To better understand the impact of traffic, we analyzed adjectives associated with categories like vehicular, railway, aircraft, and port traffic, identifying distinguishing features for each type of traffic. This analysis highlights variations in perceived noise intensity and the distinctive acoustic traits of different traffic types.

For airport traffic, adjectives such as “crescente” (*rising*), “potente” (*powerful*), “ritmico” (*rhythmic*), “insopportabile” (*unbearable*), and “assordante” (*deafening*) emphasize not only its high volume but also its disruptive and cyclical nature, evoking tension and discomfort.

“Ferroviario” (*railway*) and “ferroso” (*ferrous*) define railway traffic, along with “rumoroso” (*noisy*), “costante” (*constant*), and “artificiale” (*artificial*). These suggest a recognizable but less distinct identity, blending with other urban sounds like vehicular traffic.

Vehicular traffic is associated with a broad range of terms, from “caotico” (*chaotic*), “fastidioso” (*annoying*), and “persistente” (*persistent*) to “quotidiano” (*daily*), “continuo” (*continuous*), and “cittadino” (*urban*). This reflects its omnipresence in city life - both integrated into routines and perceived as intrusive.

Port traffic presents a complex soundscape, combining industrial and natural elements. Adjectives like “marittimo” (*maritime*), “profondo” (*deep*), “chiassoso” (*boisterous*), and “minaccioso” (*threatening*) suggest an intense yet variable acoustic environment.

We then considered the responses identifying natural and atmospheric elements, daytime or nighttime human activity, and the neighbourhood as the primary sources of the evaluated area. Common adjectives, such as “ambientale” (*environmental*), “vivo” (*lively*), “accettabile” (*acceptable*), and “allegro” (*cheerful*), indicate an impact perceived as



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predominantly positive or tolerable, suggesting a sense of belonging to the daily context. However, the adjectives associated with each source provide insight into how listeners experience these sources in distinct ways.

Natural and atmospheric elements are described by terms like “naturale” (*natural*), “rilassante” (*relaxing*), and “piacevole” (*pleasant*), evoking a harmonious and calming atmosphere, in stark contrast to urban sources. Words like “avvolgente” (*enveloping*) and “magnetico” (*magnetic*) suggest that these sounds are not only pleasant but also engaging.

For human activity, adjectives such as “notturno” (*night*), “lavorativo” (*working*), and “caotico” (*chaotic*) paint a lively yet ambivalent picture, where some sounds are perceived as intrusive, while others like “colorato” (*colourful*), “divertente” (*fun*), and “festoso” (*festive*) contribute to an enriching social dimension.

Finally, the neighbourhood is associated with adjectives like “domestico” (*domestic*), “tollerabile” (*tolerable*), and “quotidiano” (*everyday*), indicating that neighbourhood sounds are part of daily life, perceived as manageable and non-invasive, creating a sense of familiarity and intimacy.

Overall, the analysis highlighted how each sound source contributes to creating a unique *acoustic footprint*, reflecting the complex interaction between sound, environment, and human perception.

3.2 Creating a vocabulary associated with the value scale: very quiet - very noisy

The previous analysis identified key adjectives for each noise type, focusing on those with the most significant weight in their respective classes.

Next, we aimed to create a vocabulary linked to the scale from *very quiet* to *very noisy*. We focused on identifying adjectives that specifically characterize each noise class. To do this, we analyzed the distribution of adjectives, concentrating on those not overly spread out across multiple groups. We regarded adjectives as specific if they appeared in at most two contiguous classes, reflecting a stronger association with the noise type.

3.2.1 Analysis for identifying significant adjectives by noise class

In 824 Italian questionnaires, participants provided 3,337 adjectives describing the overall soundscape of a road they had selected. On average, participants provided four adjectives for location, with a standard deviation of 6.3 and a mode of 1. The data showed that, generally, participants used only one adjective to describe the sound characteristics, with more adjectives used when the area

was considered *very noisy*. Interestingly, only 3% of respondents labelled the area as *very quiet*, and just 3% of adjectives were assigned to this category, making it impossible to identify representative adjectives for *very quiet*. Thus, the analysis focused on identifying significant adjectives for four of the five noise classes.

Out of the 312 adjectives initially proposed, participants selected 261 at least once. After excluding 40 adjectives with infrequent usage, we retained 221 adjectives for further analysis.

Table 1. List of adjectives identified for noise classes

Classes	Adjectives
Silenzioso ¹	Delicato, rilassante, simpatico, tranquillo, usuale
Né silenzioso, né rumoroso ²	Allegro, banale, bianco, breve, casalingo, casuale, ciclico, discreto, distante, distinto, elettrico, familiare, lento, lieve, limitato, magnetico, marittimo, melodico, meraviglioso, monotono, noioso, normale, occasionale, percettibile, perenne, periodico, potente, sintetico, statico, tenue, tollerabile, udibile
Rumoroso ³	ansioso, continuo, eccessivo, elettromagnetico, frustrante, inaccettabile, incessante, innaturale, logorante, martellante, metropolitano, percepibile, prolungato, rumoroso, snervante
Molto rumoroso ⁴	assordante, insostenibile, roboante

For each adjective, we calculated its relative frequency in each class. We then used these frequencies to compute a

¹ Quiet: gentle, relaxing, sympathetic, peaceful, usual

² Neither quiet nor noisy: cheerful, dull, white, brief, homely, casual, cyclical, discrete, distant, distinct, electric, familiar, slow, slight, limited, magnetic, maritime, melodic, wonderful, monotonous, boring, normal, occasional, perceptible, perennial, periodic, powerful, synthetic, static, tenuous, tolerable, audible

³ Noisy: anxious, continuous, excessive, electromagnetic, frustrating, unacceptable, incessant, unnatural, wearing out, pounding, metropolitan, perceptible, prolonged, noisy, unnerving

⁴ Very noisy: deafening, unsustainable, bombastic



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weighted average noise index, reflecting the adjective association with different noise levels.

The index is calculated by multiplying the relative frequency of each adjective in a class by the corresponding noise level of that class and then summing these values. This method allows adjectives to be assigned a noise value between 1 (very quiet) and 5 (very noisy) based on how they appear across the different classes. A standard deviation threshold of 0.7, validated by TF-IDF analysis, ensured the selection of the most significant adjectives for each class. The final list includes 55 adjectives, mostly with positive connotations for quiet environments and negative ones for noisy areas. The *neither quiet nor noisy* class was more complex, containing positive and negative adjectives, demonstrating how sound perception depends on noise intensity, context, personal expectations, and emotional experiences. For instance, environments in this category could be described as dull or cheerful, showing that emotional and contextual factors shape sound perception beyond simple decibel measurements.

3.2.2 Analysis of the sounds presented based on the noise scale

In the second part of the questionnaire, participants listened to audio recordings and matched them with adjectives from the first part. We then compared the adjectives assigned to vehicular traffic, railway traffic, and natural elements in the first part with those selected for recorded sounds of traffic, trains, crickets, and seagulls.

The first set of adjectives describes a remembered soundscape with a known source, while the second refers to listened audio recordings with unspecified sources. This distinction reveals how different conditions influence descriptions. Adjectives for remembered soundscapes tend to be broader and influenced by visual elements or personal memories, “gioioso” (*joyful*), “soave” (*sweet*), “magnetico” (*magnetic*), “lento” (*slow*), “atmosferaico” (*atmospheric*), “leggero” (*light*), “piacevole” (*pleasant*), for natural elements which integrate an overall mental vision of the soundscape. In contrast, adjectives for heard sounds are more specific, focusing on the perceived characteristics; for example, “breve” (*brief*), “contenuto” (*contained*), “crescente” (*increasing*), “inconfondibile” (*unmistakable*) for crickets and seagulls, indicate how the participants tried to describe concrete and observable properties.

The memory of railway traffic emphasizes general and constant aspects, such as “costante” (*continuous*) and “artificiale” (*artificial*). Terms like “ferroviario” (*railway*) and “ferroso” (*metallic*) highlight its mechanical and metallic nature, while “rumoroso” (*noisy*) reflects a more

generic negative perception. In contrast, direct listening elicits a broader and more detailed range of descriptions “breve” (*brief*) and “contenuto” (*contained*), “crescente” (*increasing*), “cigolante” (*squeaky*), “secco” (*dry*), and “brusco” (*abrupt*). Spatial and temporal terms like “vicino” (*near*), “distante” (*distant*), “circostante” (*surrounding*), and “diurno” (*daytime*) demonstrate how listening engages multiple perceptual dimensions.

A similar trend appears for road traffic. Heard traffic sounds are associated with intensity and spatiality, with adjectives like “atmosferaico” (*atmospheric*), “avvolgente” (*enveloping*), “basso” (*low*), and “circostante” (*surrounding*) emphasizing their immersive quality. In contrast, remembered traffic is more influenced by prior knowledge, leading to adjectives such as “nocivo” (*harmful*), “indesiderato” (*undesirable*), “confusionario” (*confusing*), “lavorativo” (*working*), “persistente” (*persistent*), and “innaturale” (*unnatural*), reflecting a broader consideration of its impact beyond sound. Notably, 43% of participants misattributed the vehicular sound to natural or animal sources, influencing their lexical choices and leading to terms such as “naturale” (*natural*), “atmosferaico” (*atmospheric*), “avvolgente” (*enveloping*), and “soffuso” (*muffled*), which evoke a sense of tranquility. When, however, the source “traffic” is known, the adjectives become predominantly negative, such as “nocivo” (*harmful*), “dannoso” (*damaging*) and “fastidioso” (*annoying*). That suggests that the perception of sound and the language used to describe it depend not only on the acoustic experience but also on expectations and knowledge of the source.

Subsequently, we applied the classification obtained to position the sounds along a scale ranging from *quiet* to *very noisy*.

Before conducting the analysis, several preprocessing steps were applied. First, since the number of adjectives associated with the different noise classes was uneven, a normalization of the classes was performed, assigning each a weight proportional to the reciprocal of the number of adjectives present, then normalized relative to the total sum of the reciprocals. Second, the adjectives, divided into three distinct groups (Evaluation, Strength/Type, and Space/Time), were weighted to account for differences in size: smaller groups received lower weights, while larger groups were assigned greater weights. Finally, we halved the weight of adjectives belonging to multiple groups to prevent overestimation.

This classification placed seagulls and crickets in the *quiet* category, traffic and railway crossings as *neutral*, and industrial sounds (e.g., crane, chainsaw, ship siren) in the *noisy* category.



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A deeper analysis shows that while seagulls and crickets evoke calm, some participants perceive them as “assordante” (*deafening*) in specific contexts. Traffic sometimes appears “rilassante” (*relaxing*) due to misidentification with natural sounds. Noisy sounds, such as trains and cranes, are described as “assordante” (*deafening*) and “incessante” (*incessant*), while workplace sounds like forklifts seem more tolerable.

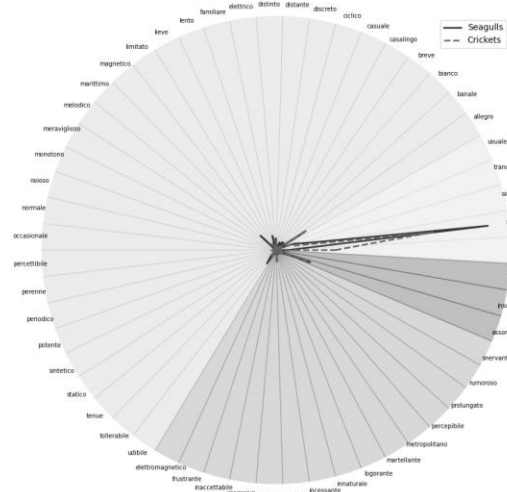


Figure 2. Sounds classified as *quiet* based on adjectives from the *quiet-to-very noisy* scale.

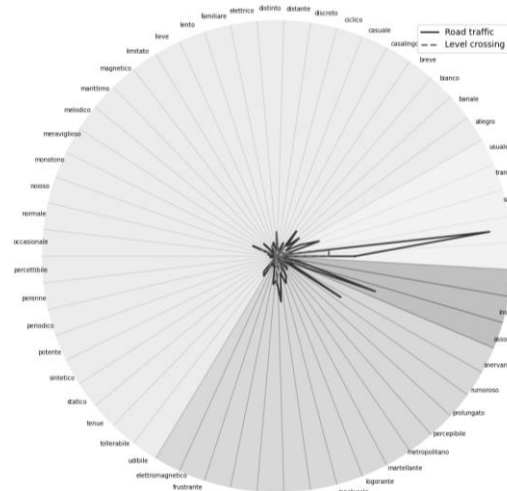


Figure 3. Sounds classified as *neither quiet nor noisy* based on adjectives from the *quiet-to-very noisy* scale.

The ship siren and loading/unloading sounds are strongly associated with “marittimo” (*maritime*), reflecting their port context.

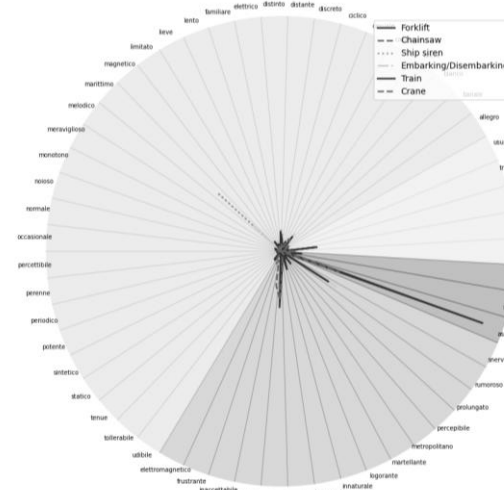


Figure 4. Sounds classified *noisy* based on adjectives from the *quiet-to-very noisy* scale.

4. CONCLUSIONS

The study addressed the issue of sound perception in port and hinterland environments, with particular attention to the linguistic description of soundscapes perceived as noisy or quiet. The research stemmed from the need to understand how describing the acoustic characteristics of specific areas requires measurable data, such as decibel levels and qualitative impressions that emerge exclusively through linguistic descriptors. The study adopted a methodological approach that combined questionnaires, linguistic analyses, and audio recordings.

When interpreting the results, it becomes clear that the linguistic descriptors used by participants offer a rich and nuanced representation of sound perception, emphasizing both the degree of noisiness and the emotional and contextual qualities associated with sounds. This variety of adjectives reflects a complex interaction between the physical characteristics of sound and the environmental and social contexts of the analyzed areas.

These observations find a theoretical framework in the concept of soundscape [5, 6], which emphasizes how the sounds of a place, much like visual elements, play a role in defining our experience of space, creating a multisensory dimension that influences both perception and the meaning attributed to landscapes.



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A critical aspect that emerged is the role of source awareness: when participants were aware of the sound source, their descriptions often included evaluative and contextual elements, whereas when the source was unknown, they focused more on purely acoustic characteristics. This result reinforces the idea that sound perception is a complex process influenced both by direct experience and by the mental construction of context.

Previous research, such as Raimbault [17], has shown that knowledge of a sound source influences its perceived quality, supporting these findings.

Future research could further explore the role of familiarity and cultural context in the perception and description of the soundscape.

The relevance of this study to the fields lies in its methodological and applicative implications. The main conclusion is that combining qualitative and quantitative approaches offers a more complete understanding of the soundscape, addressing the limitations of relying solely on physical noise measurements. These findings can contribute to developing more perceptually and emotionally sensitive acoustic policies, emphasizing language as a key tool for capturing the complexity of sound perception.

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