

Musical Noise – On Noise as Art vs. Control Condition

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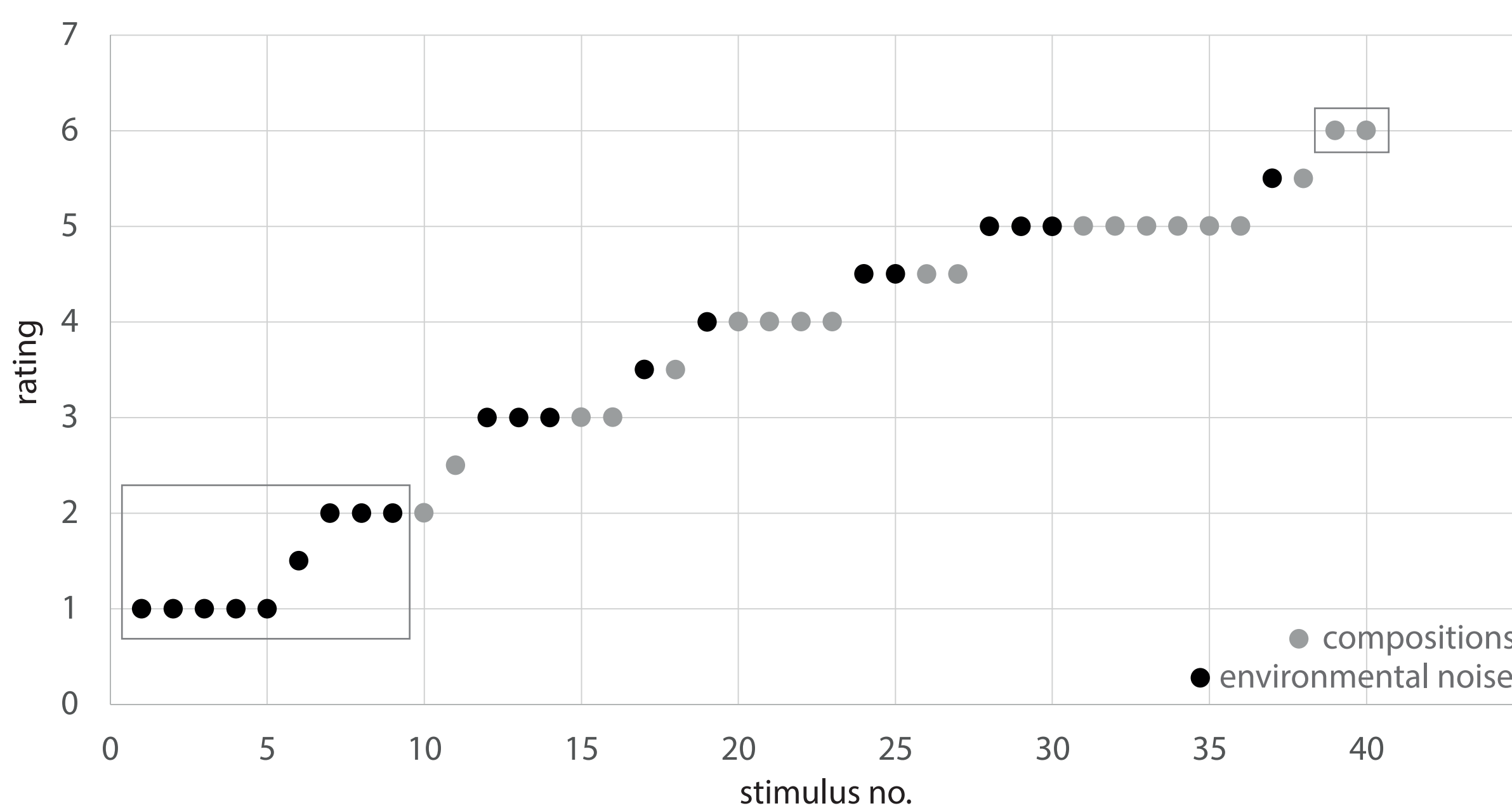
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Introduction

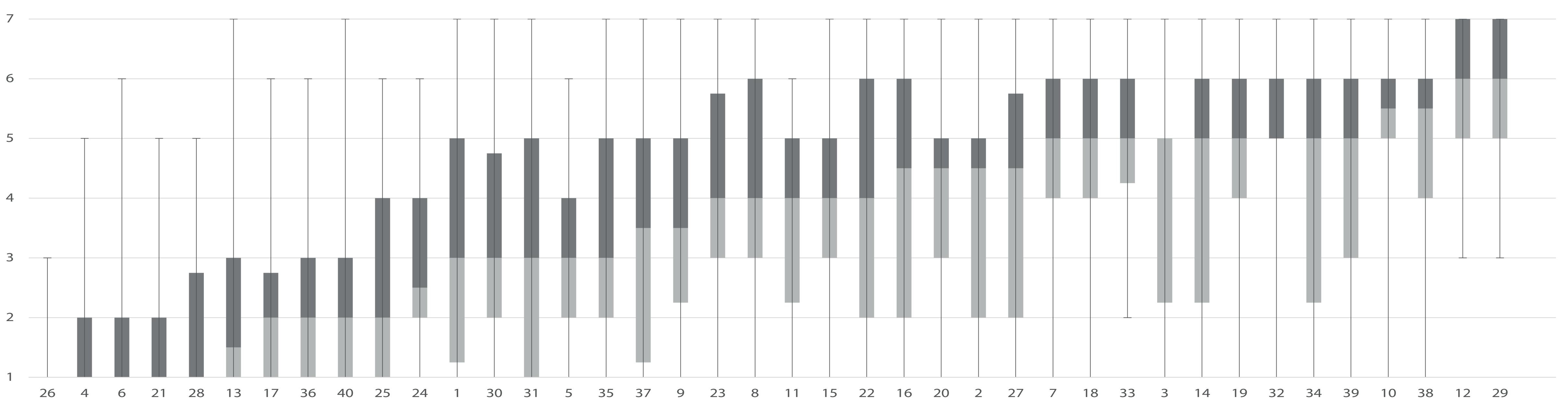
The differentiation of “music” and “noise” was challenged by 20th century composers (e.g. Luigi Russolo, 1913; Pierre Schaeffer, 1948). In experiments though, noise has been used as a control condition for music (i.e. treated as an “anti-music” phenomenon). If noise should be treated as a genuine musical phenomenon was addressed with the current study.

Results

Music students rated the sounds from compositions significantly as “music” (median 5) and the environmental sounds as “not music” (median 3), confirmed by a Wilcoxon signed rank test ($Z=-2.84$, $p=.004$, $r=.45$). A cluster analysis (k-means) revealed cluster #1 (C#1) comprising 12 stimuli (9 environmental; mean 2.20), C#2 comprising 18 (mean 3.79) and C#3 comprising 10 stimuli (4 environmental; mean 5.11). The cluster analysis explains the group difference: The result was driven by nine environmental sounds, rated as “not music”, while only two stimuli from the compositions received the highest “music” ratings.



The box plot below shows the median of each rated stimulus as a line, with a box in which the top edge is the third quartile and the bottom the first quartile. Whiskers at the top and bottom representing the extreme values.



Discussion & Conclusion

Certain characteristics seem to be important for a sound to be perceived as music or not: “Not music” stimuli could be assigned to certain objects, e.g. helicopter, rain, car (C#1), while “music” stimuli had more regular characteristics, such as pitch and beat, and could be assigned to a certain musical style, e.g. electronic music (C#3). The middle cluster C#2 comprised some boundary cases where these cues were not as easily applied and individual differences were prominent. These results suggest a careful approach when using noise as a control condition for music, because noise can be perceived as music under certain circumstances, despite significant group differences.

Methods

30 undergraduate music students rated 40 inanimate sounds (3.5-4.5 sec.) on a 7-point Likert scale whether they perceived them as music (7) or not (1). The corpus comprised 20 environmental sounds from an online library (search criteria: “noise”) and 20 from 20th century compositions, often referred to as “noise-music”.

Stimulus List

Titles

- Masima Akita aka Merzbow, Birds and Warhorse, 2004
- Akufen, New Process, 2001
- Aphex Twin, Windowlicker (Equation), 1999
- Lightning Bolt, Mega Ghost, 2005
- Lou Reed, Metal Machine Music, 1975
- Luc Ferrari, Danses Organiques, 1971
- Random Inc., Losing Touch, 2001
- Luigi Russolo, Risveglio di una Città, 1913
- Pierre Schaeffer, Cinq études de bruits, Étude aux chemins de fer, 1948
- Karlheinz Stockhausen, Kontakte electronic version, 1958
- James Tenney, Analog #1 (Noise Study), 1961
- Yasunao Tone, 2003

- | | | |
|--------------------------|------------------------|----------------------------|
| [1] n1_alien_buzzer | [15] russolo2 | [29] aphex3 |
| [2] aphex1 | [16] n7_hammering | [30] n15_rustle |
| [3] random1 | [17] n8_noise | [31] n16_chains |
| [4] n2_background noise | [18] n9_pin drop | [32] aphex4 |
| [5] russolo1 | [19] yasunao1 | [33] n17_strange noise |
| [6] n3_helicopter pass | [20] n10_power up | [34] tenney1 |
| [7] n4_buzz | [21] n11_radion static | [35] yasunao2 |
| [8] lonreed1 | [22] lonreed2 | [36] n18_static |
| [9] stockhausen1 | [23] n12_sirene | [37] n19_ticking clock |
| [10] n5_electronic noise | [24] schaffer1 | [38] stockhausen4 |
| [11] aphex2 | [25] russolo3 | [39] aphex5 |
| [12] random2 | [26] n13_rain | [40] n20_window shattering |
| [13] n6_car | [27] stockhausen3 | |
| [14] stockhausen2 | [28] n14_wave | |

References

- Hegarty, P. (2007). Noise/Music. A History. London.
- Ross, A. (2007). The Rest Is Noise. Listening to the Twentieth Century, New York.
- Russolo, L. (1913). L'arte dei Rumori. Manifesto futurista. Milano.