

# Study reveals small excerpts can accurately predict our musical tastes

February 9 2023

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We know whether or not we like a song after listening to it for only a few seconds, shows a study by a team of psychology researchers. Its findings, which offer new insights into cognitive processing, reveal music perception of parts of an artist's work are representative of the whole.

"Over the course of any given [song](#), the acoustic properties change dramatically, but that doesn't seem to matter much to the listeners," says Pascal Wallisch, a clinical associate professor at New York University's Center for Data Science and the senior author of the study, which appears in the February issue of the journal *Music Perception*. "We can determine within five seconds or less whether or not we will like it."

Music industry platforms, such as iTunes, Amazon, and Pandora, aim to influence consumers' buying choices with excerpts of songs. But it's not clear if these snippets are sufficient for listeners to determine if they like the tunes or not. Also less understood is the larger significance of the particular passage of a sampled song. Previous research has relied on short excerpts in the methodology. However, it's uncertain if responses to excerpts are similar to those for an entire song.

To address these questions, the research team, which also included Sara Philibotte, Stephen Spivack, Nathaniel Spilka, and Ian Passman—all NYU undergraduates at the time of the study—conducted an experiment that included a diverse sample of approximately 650 university undergraduate students and New York City area residents.

In these sessions, participants listened to over 250 complete songs as well as excerpts from these songs lasting five, 10, or 15 seconds. The researchers also varied the portion of the songs that were excerpted, capturing the intro, outro, chorus, and verse portions. The [musical genres](#) included [popular songs](#) on Billboard's music charts over the last 80 years as well as music from a wide range of genres such as classical, country, jazz, hip-hop, rock, electronic, and R&B/soul.

In the experiment, the participants were asked to rate how much they liked a particular song or clip ("Hate it," "Strongly dislike it," "Slightly dislike it," "Indifferent," "Slightly like it," "Strongly like it," "Love it") and to rate their familiarity with it in response to this question: "How

often have you heard this before?" ("Never," "Once," "More than once," "Multiple times," "Too many to count").

Overall, the results showed that participants' preferences for songs—whether they listened to a clip or the entire song—aligned, indicating that clip preference ratings predicted like or dislike for entire songs. Notably, the length of the clip did not make any difference in the assessments of listeners.

The researchers considered the possibility that listening order could have affected the results: Was there a higher correlation of preference when the participants heard the complete song before hearing the excerpt (indicating that hearing an entire song affected how the clip was subsequently rated)?

Indeed, the correlation for song preference was higher when the complete song was heard before the excerpt than it was when the complete song followed it. But, the authors write, a correlation between preference for an excerpt and that for an entire song was very strong, even if the excerpt was heard first.

They add that recognition of a song may have had some impact on preference, but note that only about a fifth of the songs were recognized by the participants. They conclude that while "unrecognized clips that were presented before the song were least predictive of the song preference rating," such clips are "still far more predictive than one would expect from random chance."

"This finding might have wide-ranging implications for our understanding of what properties of songs evoke certain emotions in listeners," observes Wallisch. "The fact that a small excerpt is enough to tell us if we like it or hate it, suggests that we respond more to the general vibe that a song brings to us rather than its [musical notes](#) per se."

**More information:** Sara J. Philibotte et al, The Whole is Not Different From its Parts, *Music Perception* (2023). [DOI: 10.1525/mp.2023.40.3.220](https://doi.org/10.1525/mp.2023.40.3.220)

Provided by New York University

Citation: Study reveals small excerpts can accurately predict our musical tastes (2023, February 9) retrieved 22 May 2024 from <https://medicalxpress.com/news/2023-02-reveals-small-excerpts-accurately-musical.html>

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