

# Scientific Article



## Title

Development and Evaluation of a Sound-Swapped Video database for Misophonia

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## Abstract

Misophonia has been characterized as intense negative reactions to specific trigger sounds (often orofacial sounds like chewing, sniffing, or slurping). However, recent research suggests high-level, contextual, and multisensory factors are also involved. Researchers in this study recently demonstrated that neurotypicals' negative reactions to aversive sounds (e.g., nails scratching a chalkboard) are attenuated when the sounds are synced with positive attributable video sources (PAVS; e.g., tearing a piece of paper). To assess whether this effect generalizes to misophonic triggers, we developed a Sound-Swapped Video (SSV) database for use in misophonia research. In Study 1, we created a set of 39 video clips depicting common trigger sounds (original video sources, OVS) and a corresponding set of 39 PAVS temporally synchronized with the OVS videos. In Study 2, participants (N = 34) rated the 39 PAVS videos for their audiovisual match and pleasantness. We selected the 20 PAVS videos with best match scores for use in Study 3. In Study 3, a new group of participants (n = 102) observed the 20 selected PAVS and 20 corresponding OVS and judged the pleasantness or unpleasantness of each sound in the two contexts accompanying each video. Afterward, participants completed the Misophonia Questionnaire (MQ). The results of Study 3 show a robust attenuating effect of PAVS videos on the reported unpleasantness of trigger sounds: trigger sounds were rated as significantly less unpleasant when paired with PAVS with than OVS. Moreover, this attenuating effect was present in nearly every participant (99 out of 102) regardless of their score on the MQ. In fact, we found a moderate positive correlation between the PAVS-OVS difference and misophonia severity scores. Overall results of this study provide validation that the SSV database is a useful stimulus database to study how misophonic responses



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can be modulated by visual contexts. Here, we release the SSV database with the best 18 PAVS and 18 OVS videos used in Study 3 along with aggregate ratings of audio-video match and pleasantness (<https://osf.io/3ysfh/>). They also provide detailed instructions on how to produce these videos, with the hope that this database grows and improves through collaborations with the community of misophonia researchers.

## Source

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