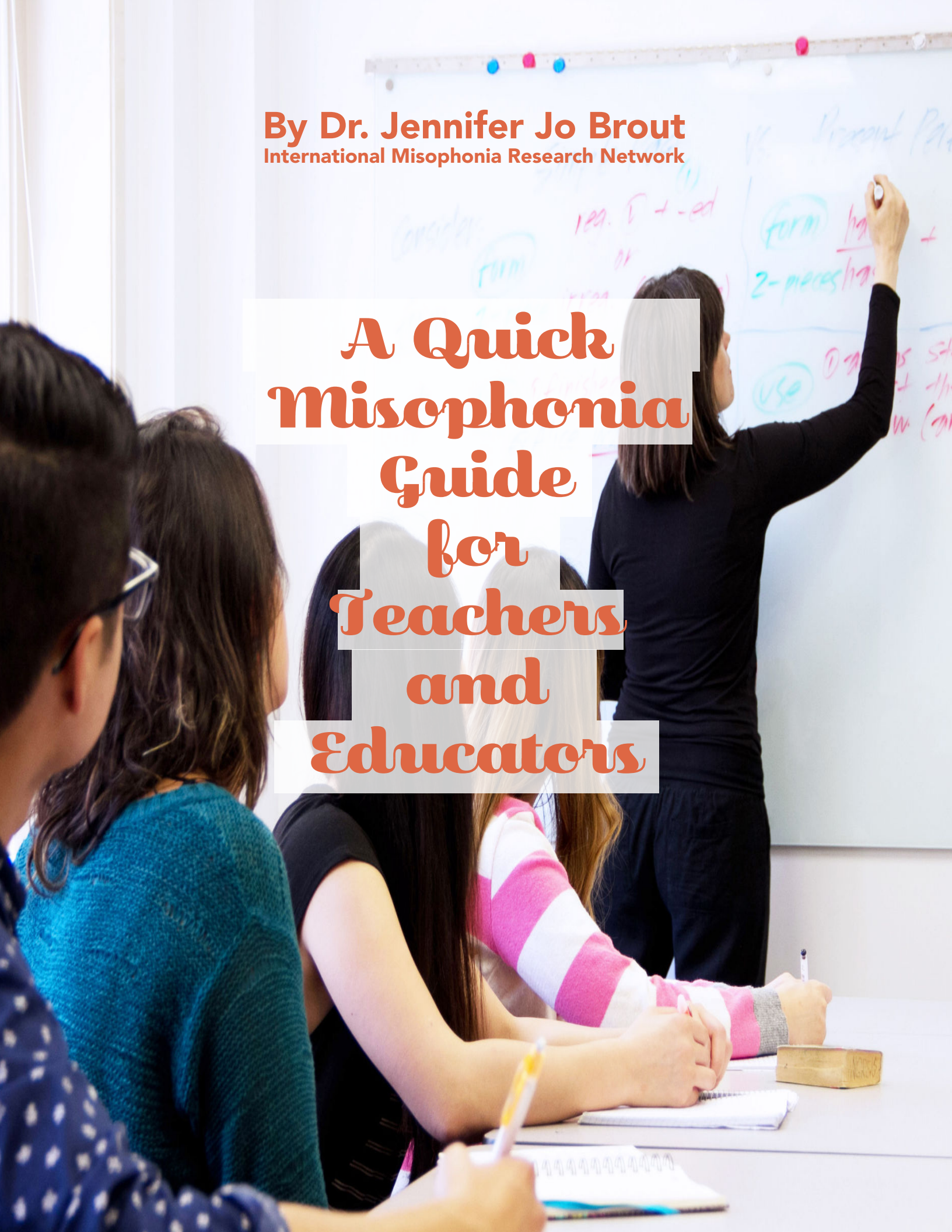


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A Quick Misophonia Guide for Teachers and Educators



What is Misophonia?

Misophonia is a brain-based disorder related to aversive reactivity to auditory and visual stimuli. It is characterized by heightened nervous system reactivity (e.g., irritation, anger, anxiety, shutting down) in response to specific trigger sounds and sights (Brout et al., 2018; Cavanna & Seri, 2015). Although research is still in the early phases brain imaging demonstrates that when an individual with misophonia is exposed to certain sounds, there is increased activation and connectivity in brain areas associated with fight-flight, emotional processing, and unconsciously mediated auditory and visual attention. (Kumar et al., 2017; Schröder et al., 2019). This means that an individual with misophonia experiences physiological symptoms associated with fight-flight such as sweating, increased heartbeat, and hormonal changes, alongside negative cognitive and emotional changes. While the disorder was once considered mostly auditory in nature, the inclusion of visual stimuli, as well as recent research regarding parts of the brain that process movement make it difficult to classify. Triggering sounds/visuals are usually pattern based and repetitive and are often associated with oral and nasal sounds emanating from others. However, many people also report non-organic sounds (e.g., keyboarding, windshield wipers, etc.) to be highly disturbing. Jastreboff & Jastreboff (2001) named this disorder as they were working in their tinnitus and hyperacusis clinic. Tinnitus (ringing in the ears) and hyperacusis (perception of sound as louder than objectively measured) may co-occur with these other auditory conditions, but it is generally accepted that misophonia is a disorder than stands on its own.

What is Misokinesia?

Misokinesia or hatred of movement, was first proposed by Schröder and his colleagues (Schröder et al., 2013). Like misophonia, misokinesia also includes high nervous system reactivity to stimuli arising from the environment. However, responsivity results from an intolerance to certain visual stimuli and/or movements. Misokinesia often occurs with misophonia. Studies indicate that the misokinesia triggers are predominantly attributed to misophonia triggers such as orofacial behaviors. However, movement-related stimuli such as feet jiggling and finger tapping (Rouw & Erfanian, 2017) do not necessarily have corresponding auditory features. Notably, however, many misophonia sufferers describe being able to hear sounds that go along with those movements. Therefore, the relationship between misokinesia and misophonia remains difficult to parse out.

Misophonia Treatment

Misophonia treatment has been a source of great confusion for doctors, therapists, and sufferers alike. Currently, we are without a validated treatment for misophonia. Audiologists offer ways to layer and mask sound, which are reliably helpful (as reported by those with misophonia). Various Cognitive and Behavior therapies have also been trialed, yet without consistent results. Graded exposure therapy has proved highly uncomfortable to sufferers and does not result in positive change or a reduction of triggers. In the absence of a treatment, coping skills and lifestyle changes are often helpful, particularly when approached in a multi-disciplinary manner.

Potential Accommodations

- Parents, practitioners, teachers and school administration can work together to find what works best for the student (without impeding other students)
- Assigned seating where student is comfortable to reduce anxiety of finding their “preferred seat”
- Frequent breaks
- Earplugs, white-noise or sound generators, and headphones
- Alternative assignments for absences
- Testing and exams in a separate room

Tips for Teachers

- Work with parents and clinicians to meet the needs of individual students
- Do not feel like you need to “solve” the problem, just be supportive of the student
- Understand that students are not asking for headphones and breaks for leisure, and that these conveniences are helping them to remain calm and prevent meltdowns and shutdowns
- Understand that the child or teenager is not acting out for attention, but rather, due to an over-aroused nervous system.
- Read academic reviews and papers or take the Misophonia for Educators/Teachers course.

2018 Literature Review and Consensus Definition

Please read the entire Literature Review here: <https://www.frontiersin.org/articles/10.3389/fnins.2018.00036/full>

For Consensus Definition: <https://misophonia.duke.edu/events/what-misophonia/consensus-definition-misophonia-here>

Misophonia Provider Network

Educators interested in better understanding misophonia are welcome to take a provider course and be listed in our directory for tutoring, etc. If interested, contact: <https://drjenniferbrout.com/contact/>

References and Selected Papers

- Brout, J.J., Edelstein, M., Erfanian, M., Mannino, M., Miller, L.J., Rouw, R. Rosenthal, M.Z. (2018) Investigating Misophonia: A review of the empirical literature, clinical implications, and a research agenda. *Frontiers of Neuroscience*, 12(36). doi:10.3389/fnins.2018.00036
- Cavanna, A. E., & Seri, S. (2015). Misophonia: current perspectives. *Neuropsychiatric Disease and Treatment*, 11, 2117–2123. doi:10.2147/NDT.S81438.
- Danesh, A. A., & Kaf, W. A. (2012). DPOAEs and contralateral acoustic stimulation and their link to sound hypersensitivity in children with autism. *International Journal of Audiology*, 51, 345-352. doi:10.3109/14992027.2011.626202
- Edelstein, M., Brang, D., Rouw, R., & Ramachandran, V. S. (2013). Misophonia: physiological investigations and case descriptions. *Frontiers of Human Neuroscience*, 11(296). doi:10.3389/fnhum.2013.00296.
- Gavin, W. J., Dotseth, A., Roush, K. K., Smith, C. A., Spain, H. D., & Davies, P. L. (2011). Electroencephalography in children with and without sensory processing disorders during auditory perception. *American Journal of Occupational Therapy*, 65(4), 370-377. doi:10.5014/ajot.2011.002055.
- Jastreboff, M. M., & Jastreboff, P. J. (2001). Components of decreased sound tolerance: hyperacusis, Misophonia, phonophobia. *ITHS News Letter*, 2, 5–7.
- Jastreboff, M. M., & Jastreboff, P. J. (2002). Decreased sound tolerance and tinnitus retraining therapy (TRT). *Aust. NZ J. Audiol.*, 24, 74–84. doi:10.1375/audi.24.2.74.31105.
- Jastreboff, P. J., & Jastreboff, M. M. (2014). "Treatments for decreased sound tolerance (hyperacusis and Misophonia)," in *Seminars in Hearing*, 35(2). New York, NY: Thieme Medical Publishers.
- Kumar, S., Hancock, O. T., Sedley, W., Winston, J. S., Callaghan, M. F., Allen, M., Griffiths, T.D. (2017). The brain basis for Misophonia. *Current Biology*, 27(4), 527-533. doi:10.1016/j.cub.2016.12.048
- Kumar S, Dheerendra P, Erfanian M, Benzaquén E, Sedley W, Gander PE, Lad M, Bamiou DE, Griffiths TD. The Motor Basis for Misophonia. *J Neurosci*. 2021 Jun 30;41(26):5762-5770. doi: 10.1523/JNEUROSCI.0261-21.2021. Epub 2021 May 21. PMID: 34021042; PMCID: PMC8244967.
- Meltzer, J., & Herzfeld, M. (2014). "Tinnitus, hyperacusis, and Misophonia toolbox," in *Seminars in Hearing*, 35. New York, NY: Thieme Medical Publishers.
- Rouw, R., & Erfanian, M. (2017). A large-scale study of Misophonia. *Journal of Clinical Psychology*, 74(3), 453-479. doi:10.1002/jclp.22500. [Epub ahead of print].
- Schröder, A., van Diepen, R., Mazaheri, A., Petropoulos-Petalas, D., de Amesti, V. Vulink, N., & Denys, D. (2014). Diminished n1 auditory evoked potentials to oddball stimuli in Misophonia

JENNIFER JO BROUT, PSY.D.

patients. *Frontiers in Behavioral Neuroscience*, 8(123). doi:10.3389/fnbeh.2014.00123.

Webber, T. A., Johnson, P. L., & Storch, E. A. (2014). Pediatric Misophonia with comorbid obsessive–compulsive spectrum disorders. *General Hospital Psychiatry*, 36(2), 231 e1. doi:10.1016/j.genhosppsych.2013.10.018.

Misophonia Links and Resources

<https://misophoniaresearch.net/>
International Misophonia Research Network.

<http://www.psychologytoday.com/blog/noises>
Blog by Dr. Brout on Misophonia research and coping.

<https://www.allergictosound.com>
Allergic to Sound, a Misophonia advocacy and community site based in the UK.

<https://www.misophonia.duke.edu/>

The Duke Center for Misophonia and Emotion Regulation (CMER) is actively conducting clinical research on misophonia, providing education to the public, and evaluating patients with treatment and management recommendations about misophonia.