

Misophonia in the Workplace

Navigating white-collar offices with misophonia in the US, Canada, Australia, New Zealand, and Europe and envisioning workspace and policy improvements

by

Olivia Honor Nienaber
Leuphana Matriculation Number: 3038685
ohnienaber@gmail.com

A Paper Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Science Global Sustainability Science

Approved July 2021 by the
Graduate Supervisory Committee:

Scott Cloutier, co-chair
Henrik von Wehrden, co-chair

ARIZONA STATE UNIVERSITY &
LEUPHANA UNIVERSITY LÜNEBURG

August 2021

ABSTRACT

This paper uses the UN's Sustainable Development Goals' inclusion of human well-being and disability rights as a base to examine the work experiences of individuals with the syndrome misophonia who have been employed in white-collar office jobs in the Global North, and how these experiences fit into the current discourse on making offices more inclusive and sustainable. It reports on common workplace triggers, coping mechanisms, and the condition's perceived effects on misophonics, as well as the perceived barriers and carriers to making workplaces more accommodating to those with the condition. A mixed-methods approach was used to address these points. First, a survey was distributed virtually and 203 responses from misophonics who work(ed) in white-collar office jobs in the study region were collected. Next, ten of these survey takers participated in semi-structured, one-on-one interviews, which were then analyzed using qualitative text analysis. The results showed that many misophonics frequently encounter intense triggers (such as mouth sounds) at the office and that self-perceived levels of productivity, well-being, and workplace sociability can be adversely affected. Though opinions on bans of certain behaviors and items and on certain terminology were diverse, there was consensus on desiring more flexible policies, understanding from others, and quiet or private working spaces, including working from home. Lack of misophonia awareness within the general populace, human resources (HR), upper management, and to some degree, the medical community was identified as a persistent barrier to misophonic employees disclosing or asking for reasonable accommodations even when they felt their misophonia was severe, negatively affected them, and there were provisions that could support them. These experiences were similar to those of other invisible conditions and pointed to the need for

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workplaces striving to be more sustainable and inclusive to adapt their policies and office design decisions.

ACKNOWLEDGEMENTS

I am sincerely grateful to all those who participated in the survey and interviews. The response from the misophonic community was terrific and this research would not have been possible without it. Many thanks to those who helped me promote the survey, including the Misophonia Podcast and the Misophonia Institute.

Thank you also to Adeel Ahmad, Cris Edwards, Nathan Kolar, Dr. Katja Brundiers, Dr. Derrick Anderson, Dr. Annika Mann, Dr. Clair Robbins, and Dr. Zach Rosenthal for meeting with me, providing me with a wealth of knowledge, and supporting my research.

I would also like to express my gratitude to my supervisors, Dr. Henrik von Wehrden and Dr. Scott Cloutier, for being so supportive and challenging me to think outside of the box.

Lastly, thank you to my husband and fellow Global Sustainability Science master students, especially Phoebe Nicette, Magdalena Schwenck, Lisa Detjen, Sophia Schröder, and Laura Walters. They were always ready and willing to help me pilot test questions and offer valuable feedback and tips. Conducting research and writing a thesis during the pandemic was not always easy, but they inspired me so much and their support helped me power through.

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COMMONLY USED ABBREVIATIONS

ADA: Americans with Disabilities Act

EU: The European Union

HR(M): Human Resources (Management)

SDGs: Sustainable Development Goals

The UK: The United Kingdom

The US: The United States of America

WFH: Work from Home

TERMS

Condition: In regard to health and well-being, something “like illnesses, injuries and impairments, [which] affect our ability to function or enjoy life” (EUFIC, 2021). This term will be used as a synonym for “misophonia”.

Core Anglosphere: An unofficial collection of countries that speak primarily English and are part of the global north. In this paper, this includes the US, UK, Canada, Ireland, New Zealand, and Australia.

Disability: “A physical or mental impairment”, which “has a substantial and long-term adverse effect on your ability to carry out normal day-to-day activities” (Citizens Advice UK, 2021). While this paper uses this definition, disability is a complex topic with many other denotations and associated connotations. Language around and theories of disability are ever-evolving and this paper has tried to use terms and definitions approved of and used in the disability community and studies.

Invisible Disability: “An umbrella term that captures a whole spectrum of hidden disabilities or challenges that are primarily neurological in nature” which “are not immediately apparent to others” (Disabled World, 2020).

Impairment: “Could be the result of a medical condition” in which one’s “physical or mental abilities are reduced in some way compared to most people”, though it “doesn’t have to stop you doing anything, as long as it makes it harder” (Citizens Advice UK, 2021).

Misophonia: “A complex neurophysical and behavioral syndrome” wherein people with misophonia may experience “emotional distress in response to specific pattern-based sounds” (Brout et al., 2018, p.2), as well as “specific visual stimuli” (Vitoratou et al., 2018). The term “misophonia” was coined by Jasterboff & Jasterboff in 2001.

Neurodiversity: “...A concept where neurological differences are to be recognized and respected as any other human variation. These differences can include those labeled with Dyspraxia, Dyslexia, Attention Deficit Hyperactivity Disorder, Dyscalculia, Autistic Spectrum, Tourette Syndrome, and others” (National Symposium on Neurodiversity held at Syracuse University, n.d.).

Neurodiversity movement: Believes that neurological variations “may be disabilities, but are not flaws” and “are a vital part of humanity” and requires challenging our assumptions about what’s normal, what’s necessary, and what’s desirable for a person to live well” (Bailin, 2019).

Person or Individual with Misophonia and Misophonic: An individual who has misophonia, either self-diagnosed or professionally diagnosed. This paper will use person-first and identity-first terminologies throughout as suggested by Dunn & Andrews (2015), who point out that the different countries (including those in this study) prefer

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different terminologies. Moreover, both terminology types can play different roles in societal and personal acceptance and humanization of disability (ibid.). Unless otherwise requested, interviewees will be referred to as either or both.

Person with a Disability and Disabled Person: Someone with a disability or impairment (depending on the preferred term). Both terminology types will be used. Terms surrounding disability will follow Dunn & Andrews' (2015), Hardy's (n.d.), and PWDA's (n.d.) language recommendations.

Syndrome: "A recognizable complex of symptoms and physical findings which indicate a specific condition for which a direct cause is not necessarily understood" (Calvo et al., 2003, p.2) and will be used as a synonym and descriptor of misophonia. However, not everyone defines misophonia as a "syndrome" and prefers to use words like "condition" or "disorder".

They/Their/Them: The APA endorses using these pronouns as singular-third-person pronouns when referring to "a generic person whose gender is unknown or irrelevant to the context" and "a specific, known person who uses "they" as their pronoun" (Lee, 2019).

Trigger: "A stimulus that elicits a reaction" (APA, n.d.). This includes "debilitating sounds...such as chewing, eating and mouth sounds, breathing, tapping or clicking" that "elicit a severe negative emotional and physical reaction, which is commonly anger and disgust" in misophonics (Meltzer & Herzfeld, 2014, p.125). While misophonia can also encompass visual and olfactory triggers, these will not be discussed here and all triggers mentioned are auditory.

White-collar job: In this paper, white-collar jobs include jobs where a person usually works in an office and does not do physical labor and is not part of the service industry. Some examples of white-collar jobs are telemarketer, phone or computer-based customer service representative, administrative assistance, accountant, consultant, engineer, researcher, and office manager or administrator, as well as people working in IT, finance, government, insurance, law, etc.

TERMS: OFFICE LAYOUTS

Activity Based Working (ABW):

“An emergent way of working based on a holistic approach to work style that harnesses the intersection of the people (behavioral environment), place (physical environment) and technology including knowledge sharing (virtual environment)” (Engelen et al., 2019, p. 468). There is no one designated layout for ABW offices, but typical design features include “team desks, sit-stand workstations, quiet rooms, break-out areas, telephone and meeting rooms, and a lounge area” (ibid.). Employees usually do not have “allocated seating”, but there may be “home zones” where their group sits (ibid.). It was referred to as “open office with different room types” in the survey and interview materials.





(Startup Stock Photos, 2015)

Office with Cubicles: “A type of open office plan where the workspaces are created using partition walls on 3 sides to form a box” (Room Sketcher, n.d.). There are many types of cubicles and it was not defined in the survey or interview materials where it was referred to as “an open office with low or high partitions”. However, the picture of a single-occupancy workstation cubicle was used in both.



(Karth, 2005)

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<p>Open Office: A space with little to no partitions between work areas or workers. There can be distinct work areas, which “are created and defined using furniture. Desks may be lined up side by side to create ‘banks’ or they may be replaced with multi-person worktables called ‘benches’” (Room Sketcher, n.d.).</p>	 <p>(Fauxels, 2019)</p>
<p>Private Office: An office with 4 walls occupied only by a single employee at one time.</p>	 <p>(Jopwell, 2019)</p>
<p>Shared Office: A space occupied by a few employees at the same time with little to no partitions who might share the same work table. It was restricted to 2-4 people in the survey and interviews. The space is sometimes a private office that has been converted.</p>	 <p>(Piacquadio, 2018b)</p>

INTRODUCTION

Despite global advancements in mental health and disability rights, inclusivity, and awareness, these issues are still routinely stigmatized in society and underrepresented in policy in rich and poor countries (Tomlinson & Lund, 2012; WHO, 2004; Krendl & Pescosolido, 2020; Woods, 2017). Tomlinson & Lund (2012) detail how in 2011, the WHO and other organizations had to continuously lobby to have mental health be merely mentioned in a document on global health priorities. This is partially what makes the United Nations' (UN) Sustainable Development Goals (SDGs) unique. The 17 SDGs are interrelated “ambitious targets” that require global collaboration to succeed (Marjes, 2020; UN, n.d.). Mental health and well-being are explicitly addressed in Goal 3 (UNDP, n.d.; UN, n.d.; Dybdahl, 2017), and disability rights are mentioned in Goals 4, 8, 10, and 11 (UNDP, n.d.; UN, n.d.). These goals can be seen as empowering (Casey, 2020) as they are “relevant for people with mental, intellectual, and psychosocial disabilities” (Dybdahl, 2017, p. 1) and as they incorporate the social model of disability (Casey, 2020; Sharma, 2020)¹. Including these issues and formally connecting them to sustainability goals in poor and rich countries is a novel approach (ibid). Their inclusion signifies that human health and well-being are not solely based on physical health and are integral to achieving “social, economic, and environmental sustainability” (UNDP, n.d.).

The SDGs are vague in terms of what mental health is and disabilities are. This vagueness allows for countries to define what these are in terms of their cultural contexts. This also allows for countries to focus on their unaddressed or underrepresented issues.

¹ The social model of disability “relies on a relatively sharp distinction between impairment and disability” wherein the former “is understood as a state of the body that is non-standard” and the latter is created by the “physical and/or social arrangements and institutional norms that are themselves alterable” but often are not altered and (un)intentionally exclude people with impairments (Goering, 2015, p. 135-6).

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Thus, in the global north, we must address the often underrepresented issues that people with mental health and/ or neurodivergent differences or disabilities² face to build a more sustainable world (Woods, 2017; Krendl & Pescosolido, 2020). One important consideration is how these people can obtain and maintain economically viable and personally satisfying and suitable work. As Casey (2020) writes:

“Disability inclusion is not a tick-box exercise – it must be consistently integrated into day-to-day decisions across the business supply chain as the norm if companies are serious about the business of growth and about fully achieving the SDGs in time.”

Misophonia is one syndrome that exists in this intersection between mental health and neurodivergent differences. For misophonics, certain workplaces may be more difficult to navigate than others due to auditory stimuli (Loy, n.d.). White-collar offices may pose a challenge as triggering sounds can abound, causing stress, anxiety, and inability to focus (ibid.; Shell, n.d.). Additionally, an office’s design, official and unofficial policies, and attitudes may cause more stress and not allow individuals to practice their preferred coping mechanisms (Dean & Auerbach, 2018; Ahmad, 2020). Coupled with the general public’s lack of awareness or misunderstanding of the condition and the continued stigmatization of mental health conditions and the “neuroatypical”, misophonics can find it difficult to seek help from their colleagues and request specific resources (Odom, 2019; Cartreine, 2017). While misophonia research is a growing field

² This paper uses the viewpoint expressed by Norstedt (2019) that non-apparent, chronic (potentially life-long) conditions like misophonia which are not always viewed as disabilities can qualify as invisible disabilities due to shared experiences of stigma, disclosure, and effects on well-being. It is important to note that not all misophonics consider misophonia a disability, would personally call their misophonia a disability, and/or are comfortable with using this terminology. Additionally, not all individuals with misophonia see it as part of mental health. These differing opinions will be discussed in the Results section.

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and there have been studies that at least partially rely on anecdotal reports and the Job Accommodation Network has created a one-page guide with suggestions for employers (Loy, n.d.), to the author's knowledge, there has not been a study that focuses on misophonia in the workplace and how office architecture, policy, etc. might be perceived to help or hinder a misophonic's productivity, professional life decisions, or sense of well-being. This paper seeks to answer the following research questions:

- 1) What are the misophonic experiences of the workplace? Does misophonia affect professional life decisions (e.g., job retention, absenteeism, career path) and relationships in the workplace?
- 2) Though triggers are individualistic, which ones are present in the white-collar office environment and are the most triggering for the majority? What effects do they have on the individual? What coping mechanisms do individuals use and consider successful and accessible for managing their reactions to and dealing with these triggers in the workplace?
- 3) Are certain office layouts and policies preferable to those with misophonia in terms of personal well-being and productivity?
- 4) According to individuals with misophonia, what can be done to make white-collar offices more inclusive for them, and what are the perceived carriers and barriers?

Though this paper focuses on misophonia and the underlying mechanics and triggers may be different, sensitivity to sounds is also reported by autistic individuals and people with ADHD and sensory processing disorders who can also struggle in the

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workplace due to sensory differences (Kuiper et al., 2019; Tartakovsky, 2014; Rodden, 2021; EARN, n.d.; Austin & Pisano, 2017). Thus, while misophonia may be considered a niche issue, it is part of the larger discussion about sustainability in regards to workplace inclusivity for people with neurological differences and employee mental health. The responses to these research questions will help develop a better understanding of the condition in the context of daily working life through the input of misophonics. They will generate new knowledge that can hopefully be used to improve the workplace environment.

What is Misophonia?

The literal translation of misophonia means “hatred or dislike of sound” (Lewin et al., 2015), but misophonia is “a complex neurophysical and behavioral syndrome” wherein people with misophonia experience “emotional distress in response to specific pattern-based sounds” (Brout et al., 2018, p. 2), which are commonly referred to as triggers or stimuli³. “Misophonia” was first coined by Jasterboff & Jasterboff in 2001 – though the syndrome is not thought to be new – and has not yet been “formally recognized as a specific type of neurological, audiological, or psychiatric disorder” (CMER, n.d.a.) despite a growing body of research into underlying causes, comorbidities, and potential management techniques and treatments⁴.

³ “Specific visual stimuli” can also cause distress (Vitoratou et al., 2018; 2020; CMER, n.d.a), though these visual triggers were not the focus of this study here. The neurological and psychological aspects of misophonia are too complex for the purposes of this paper. However, to learn more about these, as well as research about treatments, categorizations, and/or case studies please see Spankovich & Hall (2014), Brout et al. (2018), Vitoratou et al. (2020), Daniels et al. (2020), Schneider & Arch (2017), Schröder et al. (2019), Frank & McKay (2018), & Veale (2006).

⁴ There is no fully accepted evidence-based treatment of misophonia and there is disagreement within the misophonia and medical communities about best management and treatment practices. See Appendix A for more information on the development of misophonia research and on the growing interest in popular culture.

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The sound of chewing may be the most well-known trigger with many grey articles showing a picture of someone covering their ears with their hands looking unhappy next to someone chomping into a burger and having a headline like, “Does the sound of chewing drive you crazy? You might have misophonia!”. However, while this is a common trigger, other soft-sound, repetitive human/animal noises, such as slurping, popping gum, breathing, and throat clearing, and technical equipment sounds, such as typing, air conditioner ticking, and pen tapping/clicking are also reported (Vitoratou et al., 2018; 2020). Which stimuli trigger a misophonic and how severely these affect them is individualistic and can depend on the person’s emotional state and their relationship with the trigger source, amongst other factors (CMER, n.d.a). For some misophonics, these triggers are only mildly annoying and/or rarely encountered. For others, the condition can be life-changing as relationships and mental health are adversely affected with individuals trying to “avoid misophonic situations or endure them with intense discomfort, which leads to profound functional impairment” (Schröder et al., 2019, p. 1; Palumbo et al., 2018; Veale, 2006; Frank et al., 2020; Odom, 2019; Daniels et al., 2020; Loy, n.d.).

Personal Narrative⁵

Trying to explain what having misophonia is like to someone who does not have it (or a different condition that causes sensitivity to certain stimuli) is difficult. As someone who has had this condition since I was a child, one would think I would have the language to describe it but I often do not. For me, one of the best ways to describe what happens during the first few seconds of being triggered is by thinking of my brain like a camera. Before hearing a sound I find extremely triggering, like gum popping, I have in focus the

⁵ While each misophonic experience is unique, I will share some of my own experiences here to illustrate what living and working with misophonia can be like.

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task at hand. The non-triggering sounds, sights, and smells that are going on are just in the background of the shot. But then, I hear the trigger and it is as if the camera has been quickly adjusted to only focus on one, seemingly unimportant detail while everything else melts into the background. For example, if I were trying to take a family photo and instead of focusing on the faces, ended up completely blurring them out and focusing on the filthy trashcan a half-mile away. I definitely do not want to take a photo of the trashcan, but also struggle to readjust the focus onto my family as my hands are frozen and so the horrible bokeh-esque nightmare continues. When this happens in my personal life, like on a train, I sometimes end up not hearing the rest of my friend's story or the name of the station as my body tenses, my eyes scan the room for the offending noise creator, and hyper-focus on them to see if the noise will come again whilst also thinking about ways to escape the situation. If the sound was just a blip, an accident, maybe someone opening a can of soda, I begin to relax. My jaw becomes less tense and I remember to breathe normally almost immediately. My anxiety and heart rate are still a bit heightened for the next few minutes, as if ready to be assailed again, but essentially I reach "normalcy" mixed with a little bit more exhaustion again. If the trigger continues, I try to calm myself down by breathing, turning up my music, looking away from the offender, while also seeing if there is a way to easily get away from the sound. If so, a similar pattern of return to "normalcy" follows and if not, whatever I was purposefully listening to is basically tuned out as I try to focus on breathing, not hearing anything, not feeling like throwing up, and not entertaining the alarming visuals in my brain.

What happens in a professional setting is almost the same, except often the ability to tune out of hearing, escape the sound, practice a breathing exercise is harder. The maker

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of the offending noise might actually be in front of me, talking to me, blissfully unaware that I am using all my willpower, clenching my teeth together, potentially pinching myself to at least get half of what they are saying rather than the piece of gum swishing around in their mouth, being folded again and again by their tongue. I can recover in less than 20 minutes if I have only endured a few minutes of that and can find some quiet place to unwind. If it has been for an extended period, however, the anxiety and exhaustion might take longer to recover from, particularly if they become a daily occurrence. Encounters like this have made me worried throughout my adult life about in what work environments I can thrive and reach my full potential. I have had a few experiences in my life of a coworker being very understanding when I overcame my only-child conflict adverse nature and ask them if they could stop popping gum. I have also had almost the exact opposite experiences that made at least a part of every day at work feel like torture as I could only leave my desk a certain number of times at certain times or could not sit in another place or could not use headphones and felt unable to share more with my coworkers or bosses due to shame, fear of stigma, and a desire to not infringe upon others with my “abnormalness”. However, while I would assess my misophonia as extreme and it did factor in partially to my decision to leave a white-collar job, I have been privileged enough to have that option and seek gainful employment in other fields. And though I cannot say that if someone offered me a drug that could immediately cure it I would refuse, on a holistic level, I do believe misophonia has helped me try to be more empathetic to others with neurological differences and aware of how my actions may impact others.

Lastly, having misophonia served as both a benefit and bias in my research. It gave me insight into a world that is hard to explain to people without misophonia. It allowed me

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to promote my survey in different forums and a podcast as an insider. It allowed me to explain to interviewees that I understood at a base level where they were coming from, which may have facilitated more in-depth, open conversations. Simultaneously, this also exposes my research to bias. I have my own white-collar office experiences that lead me to certain assumptions. I could be a beneficiary of workplace accommodations for people with misophonia. By speaking to other misophonics, I can validate my own experiences. Equally, my decisions to not ask participants to verify their misophonia to me or to not treat their experiences and perceptions with a high degree of skepticism are products of my own misophonic experiences. However, I have tried to incorporate Galdas' (2017) advice into my process:

Those carrying out qualitative research are an integral part of the process and final product, and separation from this is neither possible nor desirable. The concern instead should be whether the researcher has been transparent and reflexive... about the processes by which data have been collected, analyzed, and presented (p. 2).

METHODS

This mixed-methods study used an online survey to collect mostly quantitative data and virtual semi-structured interviews to collect qualitative data from individuals who know or believe they have misophonia and work(ed) in white-collar jobs in the study region⁶. The survey was distributed through Qualtrics between February 14 and March 20, 2021, and consisted mostly of mandatory multiple-choice and 5-point Likert scale type questions that asked about a respondent's workplace triggers (what, how often, and how severe), reactions, coping mechanisms, and experience with and opinions on different common office designs and policies⁷. Some questions asked specifically about their current white-collar job, while others about their cumulative office experience. Several optional write-in answers were included to give respondents a chance to explain their choices or comment on something they felt was missing. In total, 203 valid responses were collected⁸. Qualtrics and Excel were used to analyze the data.

At the end of the main survey, participants were asked if they wished to be interviewed and invited to make a unique identifier. Over 70 participants expressed interest and volunteered their email addresses. Around 30 volunteers who participated before March 5, 2021, were contacted about a follow-up interview. The ten resulting one-on-one, semi-structured interviews took place virtually over Zoom and lasted between 45-90 minutes. Participants discussed their relationship to their misophonia and expanded upon its effect on their work lives and the opinions they expressed in the survey. The interviews were recorded and McClellan et al.'s (2003) guidelines for verbatim transcription were

⁶ The study region includes the US, UK, Australia, New Zealand, and EU and Schengen Area countries.

⁷ See supplemental materials for a PDF copy of the survey and the survey results.

⁸ Unfinished responses and responses where participants did not pass the 5 screening questions were thrown out, as well as those that Qualtrics thought were bot responses.

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followed. The transcripts were then analyzed using the deductive and inductive coding and qualitative text analysis guidelines outlined by Kuckartz (2014 & 2013)⁹ in Excel. Codes were developed for analyzing the text as a whole and for individual questions.

LIMITATIONS

Beyond the biases discussed above, the online data collection methods and language may have limited its accessibility. Additionally, this study may not be a representational sample of misophonics as it is unknown how prevalent misophonia is. Participants were also not asked how they knew they were misophonic (professional diagnosis or self-diagnosis), to validate that they have the syndrome¹⁰, or report if they have other conditions¹¹. Lastly, the data from the survey and interviews are based on unverified self-reported experiences, which can be flawed due to memory and bias issues (Schacter, 2021; Yu, 2020). The Covid-19 pandemic presented a unique set of issues as some people had not worked in an office setting for over a year. Due to the length of the survey and screening questions, however, all participants appeared to at least strongly believe they have misophonia and reported personal experiences as accurately as possible¹².

⁹ Interviews were analyzed as they came in and the researcher did not wait till all interviews were finished to analyze. The researcher started with “initial work with the text” steps which involved laying out and being open about hypotheses and assumptions, research questions (Kuckartz, 2014, p. 7). Additionally, it involved rereading the transcripts and write-in survey answers thoroughly, highlighting certain passages, making memos, and looking at the formal and internal structures, amongst other steps (ibid.) Next, categories were deductively and inductively created. To the researcher’s best ability, the deductive categories were “disjunctive and exhaustive” (ibid, p. 21) and based on the different sectional topics used in the survey. New categories were also formed after and during reading the individual interviews in an iterative process that involved recoding.

¹⁰ While “there are no official criteria for diagnosing misophonia” in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) (Lewin et al., 2015), various research-based self-assessment tools are accessible online (The Misophonia Institute, n.d.).

¹¹ Some interviewees disclosed other health conditions, including depression, anxiety, bipolar disorder, sensory processing disorder, and ADHD.

¹² See Appendix B for more on the limitations.

RESULTS

Demographics

As seen in Table 1, the majority of survey respondents identify as female and are between 18-49 years old. 74% have work experience in the US (see Figure 1) and 72%’s current or most recent white-collar job is in the US. Most (71%) are currently employed full-time in a white-collar job in an office. No white-collar job title or sector (e.g., legal professional, consultant, HR) had a majority of responses.

Table 1: *Survey: Age and Gender Identity of Respondents*

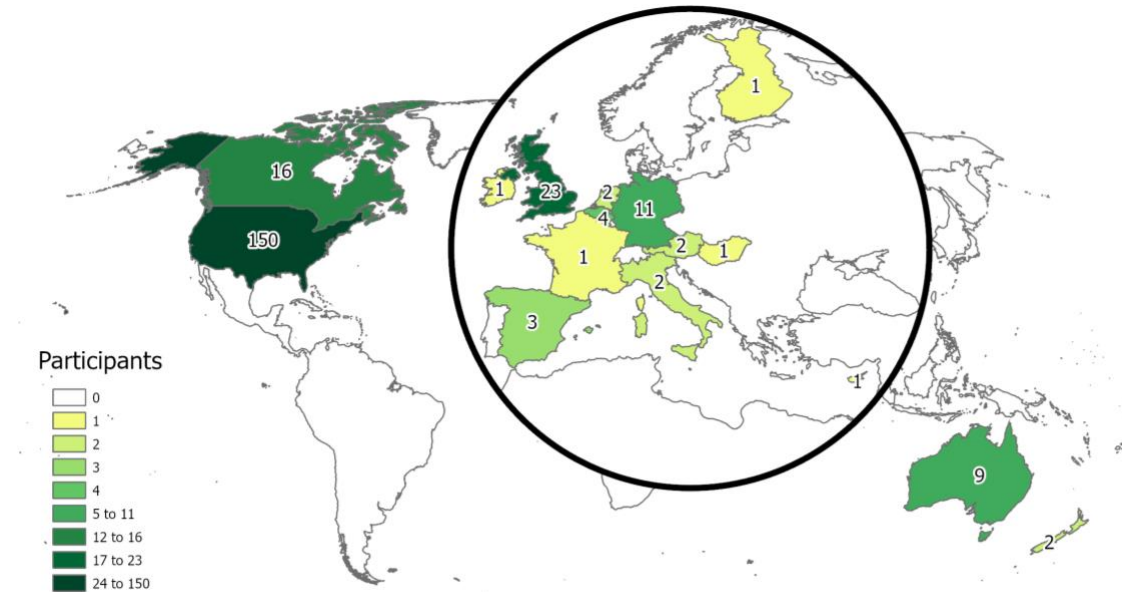
Age (in years)	Total No. (%)	Female No.	Male No.	Non-binary No.	Prefer not to Answer No.
18-29	56 (28%)	40	13	1	2
30-39	72 (35%)	47	22	3	0
40-49	41 (20%)	27	13	1	0
50-59	20 (10%)	17	3	0	0
60-69	12 (06%)	9	3	0	0
70 or older	1 (0.5%)	1	0	0	0
No Answer	1 (0.5%)	0	0	0	1
	203 (100%)	141 (69%)	54 (27%)	5 (3%)	3 (1%)

Note. Table shows the demographics of survey-takers. The majority of respondents were between 18-49 years old and/or female. “Other (please specify)” was also a possible response in gender identity, but was never selected¹³.

¹³ See Appendices C & E for a short discussion on gender identity and misophonia.

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Figure 1: Survey: White-Collar Work Experience in the Study Region



Note. Map displays which countries survey respondents work(ed) white-collar jobs in. Within the study region, over 66% have work experience only in the US. Countries outside of the study region were not included. N=203.

The interviewees are somewhat representational of survey demographics¹⁴ (see Table 2). Participants H and F were the only interviewees who had white-collar experience in multiple countries within the study region but could not compare different experiences. However, potential differences between the US versus Canada, the UK, and Germany included insurance coverage, accessibility of mental health services, and prevalence of specific office layouts¹⁵. White-collar experience in countries outside of the study area was not mentioned by any interviewee.

¹⁴ The selection was mainly based on convenience sampling. Following advice from Allen & Wiles (2015), respondents were encouraged to choose their pseudonyms. Only Participant D did not provide her unique identifier from the survey.

¹⁵ Participant H had work experience in Canada and Participant F in Canada and Germany.

Table 2: *Interviews: Demographics of Interviewees*

Participant	Pseudonym	Gender Identity	Age Range	Field/Job & Location	Misophonia Severity
A	Chuck Orcharles	M	30-39	Process Engineer in the US	3-4
B	Samantha	F	30-39	Security in the US	5-6
C	E	F	40-49	Police Dispatcher in the US	5-6
D	Ross Coker	F	50-59	Social Worker in the UK	7-8
E	Devi	F	30-39	Case Manager in the US	7-8
F	Dana Frankl	F	18-29	Researcher in Canada	7-8
G	Lane	M	40-49	Consultant in the US	7-8
H	Realdeal	M	40-49	Software Engineer in the US	7-8
J	Tommy	M	18-29	Intelligence Analyst in the US	9-10
K	Skeeter	F	60-69	Physician in the US	9-10

Note. Table displays the demographics of the 10 interviewees: six identify as female, eight are between 18-49 years old, and nine have work experience in the US. Interviewees were asked to self-access how severe their misophonia is on a scale of 1-10 with ten being extremely severe. For those who gave a range not corresponding to the one above, the lower number given was used. Each participant’s current or most recent white-collar office job is listed.

Misophonic Experience

Relationship with Misophonia

The first question interviewees responded to was: “What is your relationship with your misophonia?”. Half of the respondents spoke of how their misophonia negatively affects their lives overall, has negatively affected their professional lives, and has changed over time. To some, this change entailed an increase in the intensity of their response or the number of triggers they had. It could simultaneously involve developing better coping

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skills and becoming more comfortable with the condition and disclosure. Three individuals mentioned that knowing misophonia is something experienced by others and that it could be neurological or genetic has improved their relationship with the syndrome, though some still described themselves as being neurotic or feeling like they were crazy. Throughout six of the interviews, interviewees at least once stated that they considered the condition their own responsibility with something like “misophonia is my problem”. This statement was felt simultaneously by some as the truth, a coping mechanism, a cause of shame, and a hindrance in asking for support. Advocacy was also a particularly important theme for Participants F, H, and G (e.g., awareness, information, tools).

All interviewees reported having misophonia for at least over half a decade and all except two interviewees remembered noticing signs of misophonia before age 18. When asked to self-assess the severity of their misophonia, some interviewees compared how severe they saw their misophonia with the reported experiences of other misophonics. To put this in context, Participant A in the 3-4 category said his misophonia was not severe and only affected him every other day or every day depending on the situation and if he was able to use his noise-canceling headphones. In comparison, Participant K in the 9-10 category listed many triggers and had left a job at least partially because of her misophonia and her request for accommodations not being fulfilled.

Triggers and Reactions

Due to the diversity of misophonia triggers (Palumbo et al., 2018; CMER, n.d.a), it was important to assess which ones participants were most affected by in the workplace specifically. Survey participants were asked to rate how 29 potential triggers affected them

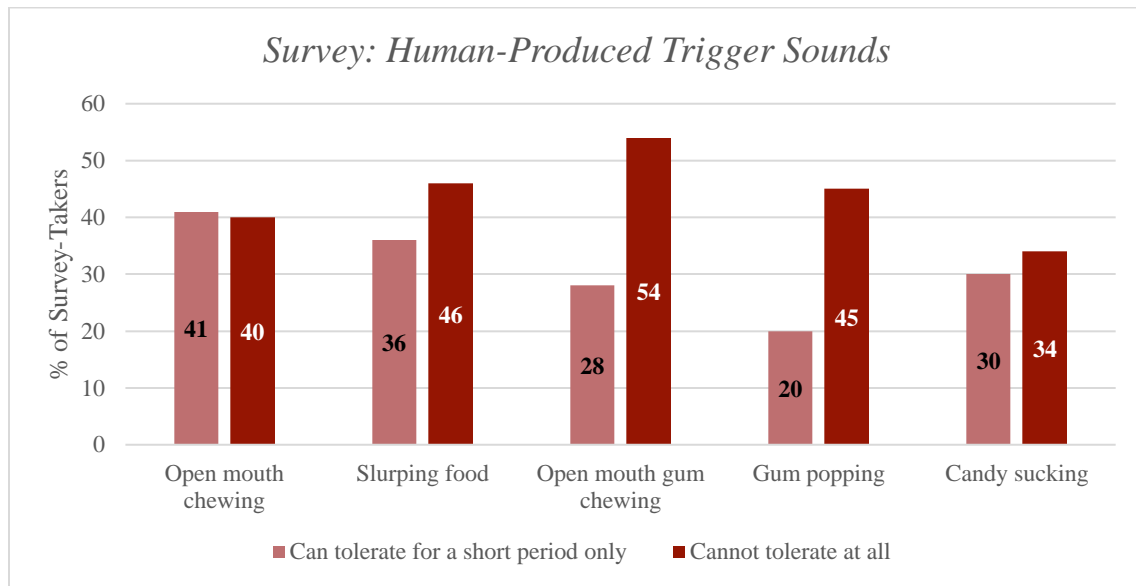
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based on a reaction scale developed by Vitoratou et al. (2018)¹⁶. The listed triggers were based on ones mentioned in the 2018 paper, other misophonia literature, social media posts, and common office noises mentioned in office design literature. Participants could also write in and rate unmentioned triggers. Following Vitoratou, et al. (2018), the triggers were divided into three categories in the survey: 1) Human-produced trigger sounds, 2) Human-produced object sounds, and 3) Machine- or technology-produced sounds. The first category was the only one in which most participants could only tolerate the sound for short period before leaving or could not tolerate it at all (see Figure 2)¹⁷. Furthermore, 68% of respondents reported that they encountered triggers that were only tolerable for a short time or not at all, 4-7 times per week at their most current white-collar workplace.

¹⁶ For each trigger, survey-takers could choose from six reactions: “does not bother me”, “annoying but I can easily distract myself”, “very annoying but tolerable (no action taken)”, “can tolerate for a short period only (I need to leave the room soon)”, “cannot tolerate at all (quick reaction)” (Vitoratou et al., 2018), or the added category “Unsure (e.g., have not experienced)”.

¹⁷ Though the survey and interview questions focused on auditory stimuli, participants did mention visual stimuli triggering them to various degrees. One example mentioned by several interviewees was how, even when wearing headphones and playing music, seeing someone chewing could elicit similar reactions like hearing someone chewing. The best way that I can describe this is if you watched a muted video of nails on a chalkboard, you would still know what this sounded like. You might still cringe even though the sound is not present. However, based on anecdotal evidence from different forums, podcasts, and the interviews, visual triggers do not have to be explicitly linked to a triggering sound. Seeing repetitive motions such as hair twirling or leg kicking can also be triggering.

Figure 2: Survey: Human-Produced Trigger Sounds



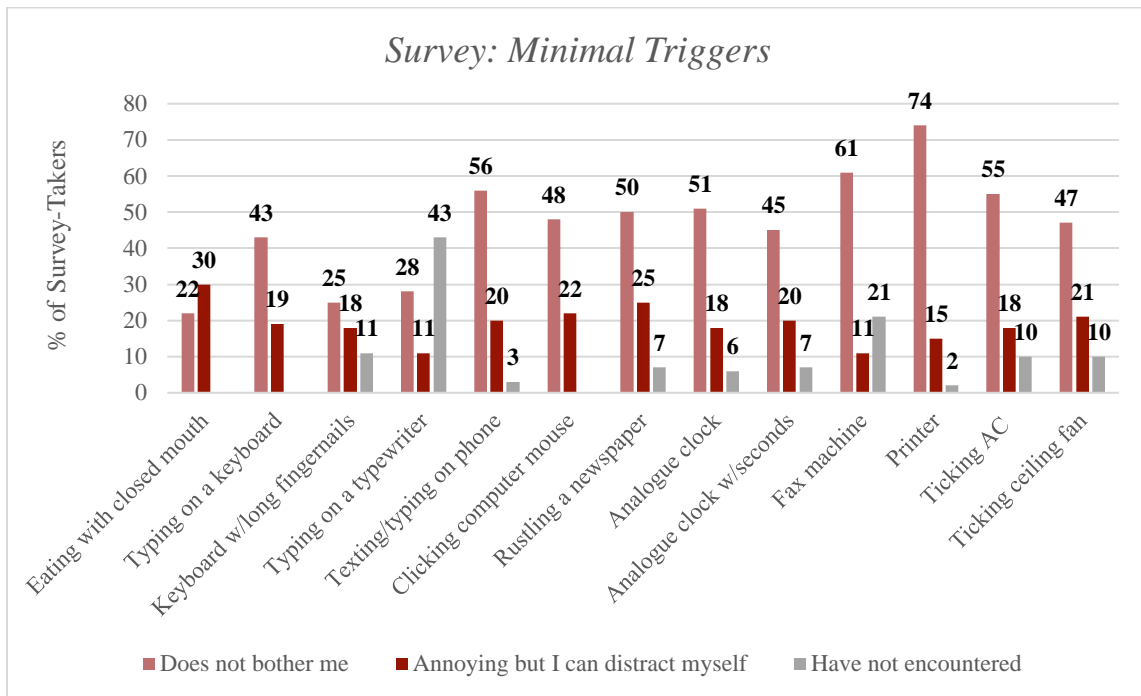
Note. Chart shows which triggering stimuli were found to be only mildly tolerable or completely intolerable by most survey-takers. All sounds belong to Category 1: Human-Produced Trigger Sounds and “open mouth gum chewing” was selected by a majority of participants as intolerable with “slurping food” and “gum popping” following. Survey-takers were asked to respond to, “In an office setting, what effects do the following human-produced sounds usually have on you? Please select your typical reaction to the sound if it is produced by 1 or more persons”. The two open mouth chewing selections in this category elicited more negative responses than their closed mouth chewing counterparts. N=203.

In contrast, Category 3 contained six triggers that were not bothersome, only annoying, or unencountered for most survey-takers (see Figure 3)¹⁸. While many of the interviewees also listed mouth sounds as the most triggering, other stimuli were mentioned as extremely triggering, such as pen clicking (Participants J, G), whistling (Participant D), sniffing (Participant F), drink sipping (Participant H), and doors banging (Participant K).

¹⁸ See Appendix D for a complete list of rated triggers.

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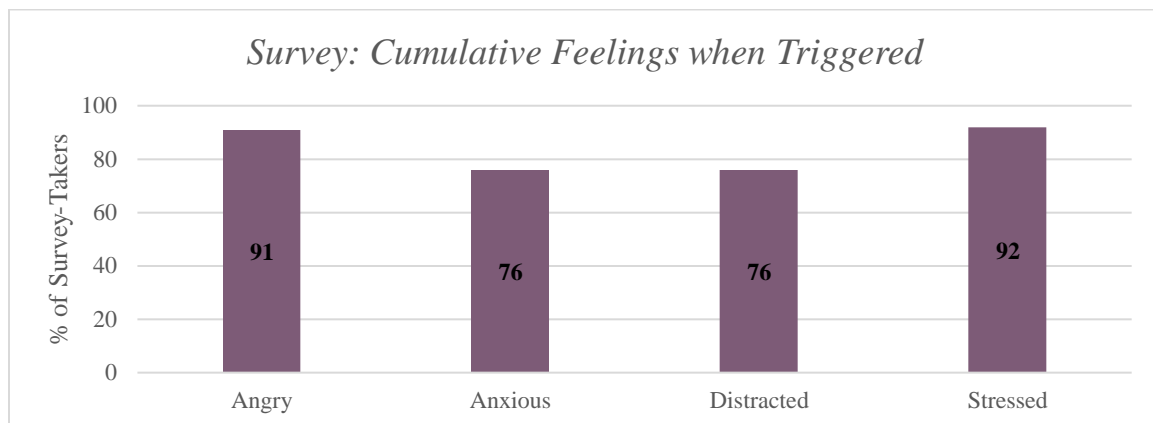
Figure 3: Survey: Minimal Triggers



Note. Chart shows which triggering stimuli were found to be slightly annoying, not annoying, or unencountered by the majority of survey-takers. Triggers from all 3 categories are included (one Category 1, six Category 2, and six Category 3 sounds). Printers, fax machines, phone texting, ticking air conditioners (AC), analogue clocks, and newspaper rustling were not bothersome to the majority. However, while these stimuli were less or not triggering for the majority, there were still participants who found some of these sounds barely tolerable or intolerable. N=203.

Survey-takers also chose and optionally wrote in how they cumulatively feel when encountering triggers in the workplace. Stressed, angry, anxious, and distracted were each chosen by at least 75% (see Figure 4). All interviewees echoed these feelings, particularly “distracted” in responses to the question, “Do you think your misophonia affects your productivity” (discussed in the following section).

Figure 4: Survey: Cumulative Feelings when Triggered



Note. Chart displays the feelings the majority of survey-takers experience when being triggered with stressed and angry being the two most selected. Participants were asked “Cumulatively, how do any of these triggering sounds or auditory stimuli make you feel when you are in the workplace?” and were allowed to choose as many feelings from the list as they felt relevant. The three other options (sad, scared, aroused) were chosen by less than 10%. N=203.

Lastly, there were only a few cases where reactions to triggers at work could have potentially resulted in conflict escalation. Some respondents reported covertly wearing hearing protection devices. One incident of tampering with office equipment was brought up by Participant K¹⁹. Participant J discussed secretly replacing click pens at work with stick pens and one incident of aggression²⁰. Participant G shared a similar experience²¹, but both male interviewees expressed regret and stated that their friendly relationships with the affected coworkers might have allowed them to react more aggressively without fear of escalation.

¹⁹ She stated that over two decades ago she had gotten a colleague to use wire cutters to “take care of...[the]speakers in the ceiling where announcements were made where there would be music played whether you wanted to hear music or not.”

²⁰ He shared, “...Oh my...coworker love him to death - but I would have to tell him every day to stop clicking his pen and stop tapping his pen...one day I just broke his pen that he was always tapping.”

²¹ He said, “...One of the guys in my office had a sports water-bottle and it had flip-top on it and he would sit there and click the flip-top...open and close it habitually...and I remember going over to his desk one time and I didn’t say anything, I just unscrewed the lid, set the lid down on the desk, and walked away.”

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Gender Identity

Because 70% of survey-takers identified as female, interviewees were asked, “Do you think your gender identity informs how you experience, talk about, or cope with your misophonia at the workplace?”. Three interviewees stated clearly that they did not think this was true. Two other respondents said that it did not affect them in their current situation because of either where they live or because of the nature of their workplace but could imagine this being true in a different situation. Half of respondents said that their gender might have affected them in the workplace. The two males in this group (Participants J and G) are open about having misophonia and said that their coworkers taking it seriously may be a result of gender identity and wondered if this would be the case if they were female. Participant G also speculated that his race and age (white, middle-aged) afforded him some privilege in being able to speak confidently about this at work. Both however also brought up the point that they potentially face some unpleasant interactions because of the stigma against men addressing mental health issues.

This sentiment was echoed in Participant D’s response wherein she stated that being female may make it easier for her to talk about mental health issues. Participants B and E also thought that it was their gender might have informed their experiences. Both do not talk about their misophonia at work and related their hesitancy to ask for accommodations with not knowing they could negotiate raises in the workplace, which they perceived to be well-known by their male colleagues. They were unsure, however, how much of this was due to gender norms or due to their personality traits. One respondent from this group and another from the “could imagine category” did state their concern over being taken seriously as women. The latter brought up the fact that women’s health issues are routinely

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dismissed even in the medical community²². While questions about the role of gender were not asked in the survey, these issues were broached in optional write-in category responses²³.

Positives of Misophonia

Interviewees were asked, “Are there any benefits of having misophonia? Or does it have any superpowers? Do you take anything positive away from having misophonia?” to which four interviewees responded negatively. Participant C stated, “I’m sure we could sit here all day and make it be positive but in the long run, no, it’s a pain. It’s a hassle. And I don’t wish this on anyone.” Three interviewees who did find something positive in misophonia still concluded in their answers that the positive(s) did not outweigh the negatives²⁴.

Nomenclature

One of the last categories of questions in the survey and interviews was naming preferences. These responses helped establish the language used in this paper and could further be used to determine the terminology for outreach materials, policy, etc.²⁵. Respondents were first asked to rate how comfortable they felt using a descriptor

²² Supported by Pagán (2018) & Kiesel (2017).

²³ One respondent wrote: “It is difficult to explain the condition to someone who hasn’t experienced it. Since they can’t relate, they seem to not take me seriously which is embarrassing. As a female, it is yet another barrier in a male-dominated industry where it will make me appear weaker. I have only brought up with close members of my team and only when it became unbearable not to.” Another respondent wrote, “While mental health conditions can be disabilities, and can be physical in origin, I have experience with medical sexism.”

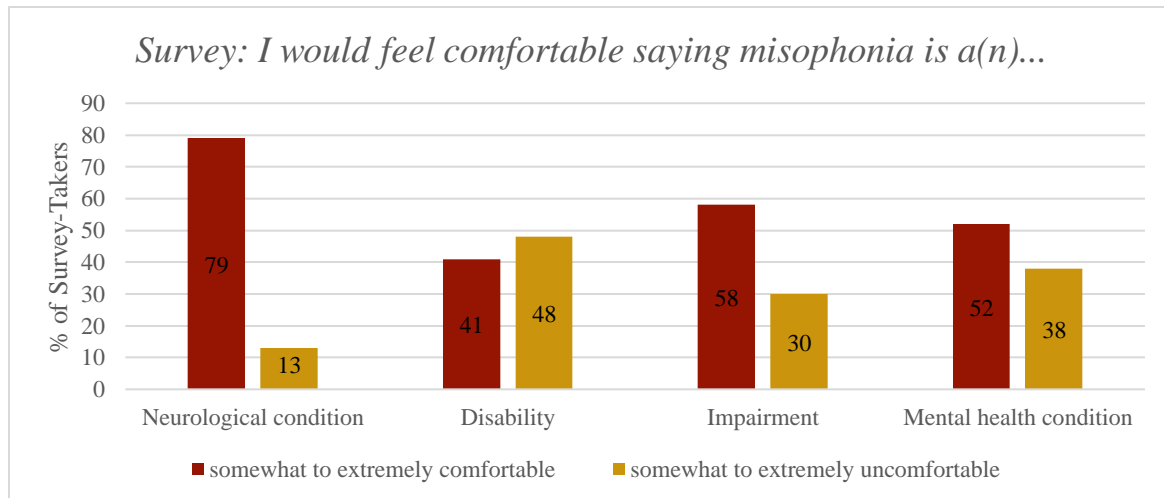
²⁴ The remaining three who did find something positive but did not clearly state this did not profess that the benefits made having misophonia worth it as in other parts of their interview, they outlined how it at the very least disrupted their lives. See Appendix D for more detailed information.

²⁵ Though there were also respondents who said they would prefer not to talk about misophonia at all, no matter what the nomenclature was. Additionally, while the word “Misophonia” was not asked about, there were a couple of respondents who preferred to use other terminology (e.g., “Sound Sensitivity Disorder”), potentially because it sounds more serious and does not have the word “phony” in it.

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commonly found in grey and academic misophonia literature. In the survey, 79%²⁶ said they felt somewhat to extremely comfortable with saying misophonia is a “neurological condition” (see Figure 5). Some survey-takers wrote that they thought this term was “neutral” and medically accurate, while a minority of others thought the term was too serious. Interviewees were asked about the term “Syndrome” and were shown the following definition: “a recognizable complex of symptoms and physical findings which indicate a specific condition for which a direct cause is not necessarily understood” (Calvo et al., 2003, p. 2). All respondents said they would feel comfortable calling misophonia a syndrome in the workplace and most responded relatively quickly with one sentence or word affirmative answers.

Figure 5: Survey: *I would feel comfortable saying misophonia is a(n)...*



Note. Chart displays how most survey-takers were comfortable with calling misophonia a “neurological condition”, but opinion was more divided on the three other terms. More participants felt uncomfortable with using the term “disability” whereas a majority were comfortable using “impairment”. “Neither comfortable nor uncomfortable” was also a possible selection and is not displayed here. N=202.

²⁶ These opinion questions were optional and no definitions were given. Only one survey taker did not complete them (N=202).

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Opinion was more divided on the survey's three other terms. In the survey, opinion over calling misophonia a "mental health condition" seemed to be divided because some respondents were not sure if this was accurate and/or thought it underplayed the possible neurological causes. There were also arguments for it as some respondents did not see the terms as contradictory and viewed their reactions as offshoots of other mental health concerns or as belonging to the mental health sphere. The concerns over calling misophonia a disability were varied in both the survey and interviews. Some mentioned possible negative repercussions, such as being perceived as difficult or overexaggerating, having to come to terms with a new identity, and taking resources from individuals who were perceived as being "*actually*" disabled. One respondent mentioned how it would be perceived as a "weakness" in a country he does business in and would thus not want these colleagues to know. Others did not feel they were personally disabled by misophonia, but could see how others might be. In the interviews, participants were provided with the following definitions of "impairment" and "disability":

"Section 6 of the Equality Act 2010...says you're disabled if:

- you have a physical or mental impairment
- that impairment has a substantial and long-term adverse effect on your ability to carry out normal day-to-day activities"

"You have an 'impairment' if your physical or mental abilities are reduced in some way compared to most people. It could be the result of a medical condition" but "doesn't have to be a diagnosed medical condition...Your impairment doesn't have

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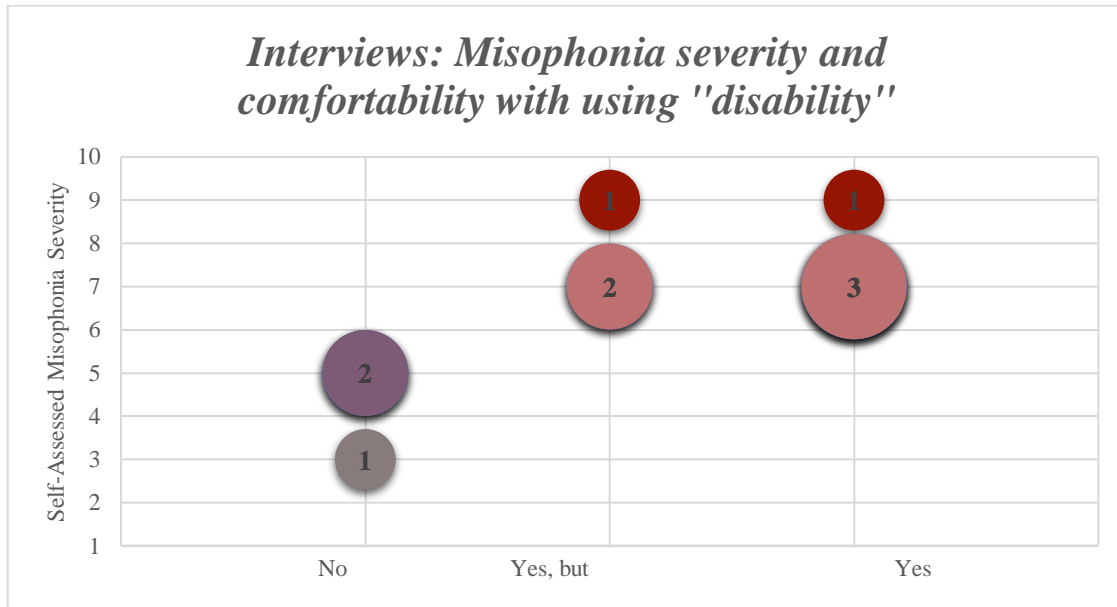
to stop you doing anything, as long as it makes it harder” (Citizens Advice UK, 2020)²⁷.

The majority of replies to this question were longer and more nuanced than those for “Syndrome”. While no one disagreed with the definition, some still preferred to differentiate between “impairment” and “disability” and to use the former. Reasons for this preference and uncertainty about using “disability” were similar to the survey comments (e.g., not feeling personally disabled, concern over appropriating the term and resulting backlash, being misunderstood because of the general populace’s understanding of disability). There was, however, a strong uphill positive correlation ($r=+.71$) between self-assessed severity and considering calling one’s own misophonia a disability (Figure 6). Participant G, one of the four interviewees who clearly said they would personally call misophonia a “disability”, had already received “minor” accommodations from his workplace by following ADA legislation. Receiving reasonable accommodation was seen as a potential benefit of describing misophonia as a disability by multiple interviewees, even those who would not personally say they were disabled²⁸.

²⁷ This definition was chosen as it was an officially accepted explanation in the study region (the UK) and combined two of the terms.

²⁸ See Appendix D for a summary of the interview responses to using the term “Neurodiversity”.

Figure 6: Interviews: Misophonia severity and comfortability with using "disability"



Note. Graph shows interviewees responses to whether they would feel comfortable calling their misophonia a “disability”. The three participants who assessed their severity from 3-6 said they did not consider their misophonia a disability, whereas those who assessed themselves as having more severe misophonia were more likely to consider calling it this. There was a strong uphill positive correlation (+.71). $Correl(X, Y) = \frac{\Sigma(x-\bar{x})(y-\bar{y})}{\Sigma(x-\bar{x})^2 \Sigma(y-\bar{y})^2}$. N=10.

Misophonia Effects on Professional Life

Productivity

Eight interviewees said misophonia affected their productivity a lot²⁹. During and sometimes after an encounter with a trigger, they were distracted from their work, especially when they did not use headphones or other hearing protection tools. Some said they had to completely stop working and take a break (physically leaving the area), which

²⁹ Two interviewees stated misophonia did not affect their productivity. Participant K said this stemmed from her job’s definition of productivity (getting a set number of tasks done per day), which was not affected by her taking breaks when being triggered. Participant E’s main triggers were mouth sounds, which were more of an issue in her personal life. Throughout the interview, both respondents pointed to using headphones at work and taking breaks when needed.

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could last from 5-10 minutes or in some cases longer depending on how triggering the situation had been. Participant F talked about how the triggering activities at work combined with the triggers she already encountered on public transit often made her exhausted, which negatively affected her productivity level. Participant D mentioned that because she was unable to fully focus, she sometimes had to switch from critical thinking tasks to routine ones. Participant G said he had measurable proof that when he worked from home where there were fewer triggers, his productivity went up as his job had computer-based productivity measuring tools. Additionally, several interviewees mentioned how being triggered during meetings (in-person and virtual) sometimes occurred, which caused them not to pay full attention to important details, turn off their computer's sound, and/or have to ask for the details after the meeting.

Professional Life Decisions

In the survey, participants were asked to decide how true various statements regarding work behaviors were to their misophonic experience. These statements were divided into three categories, which were not visible to the survey-takers: 1) Minor, 2) Major, and 3) Abstract (see Table 3)³⁰. Over half thought they had probably moved workspaces because of their misophonia. The ability to move workspaces temporarily or permanently is partially based on policies, layout, space availability, and duties, which were discussed in the interviews. Within the major category, professional life decisions that are usually regarded as diametrically opposed (e.g., seeking promotion and refusing promotion) were both considered to be false. As aforementioned, in the interviews, only Participant K said she had left a white-collar job because of misophonia.

³⁰ The categorization of these statements is subjective.

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Table 3: *Survey: Professional Life Decisions*

“Because of my misophonia, I have...”	Probably to Definitely True (%)
Moved to another workspace	64
Not considered certain occupations possible	53
Not applied for certain jobs	47
Changed my shift/work time	40
Missed days of work	33
Sought job relocation	27
Left a job	23
Sought promotion	17
Left a career	15
Turned down job offers	15
Refused job relocation	11
Refused promotion	7

Note. Table displays what percentage of survey-takers had certain professional decisions impacted by misophonia. Most Participants did not think their misophonia had impacted major decisions. Moving desks was the most affected decision. Minor decisions (light yellow) and abstract decisions (gold) were experienced more than major decisions (darker yellow). N=203.

The responses to the two abstract statements were echoed in the responses to two other statements in the survey. Respectively, 60% and 62% stated they somewhat to strongly agreed that:

- 1) “I worry or have worried that misophonia limits my white-collar job/career prospects”
- 2) “When thinking about any kind of work (white-collar, blue-collar, etc.), I worry or have worried that misophonia limits my job/career prospects”

In the interviews, Participants F and G both talked about the difficulties they have encountered or could working in client-facing jobs, particularly in the service industry,

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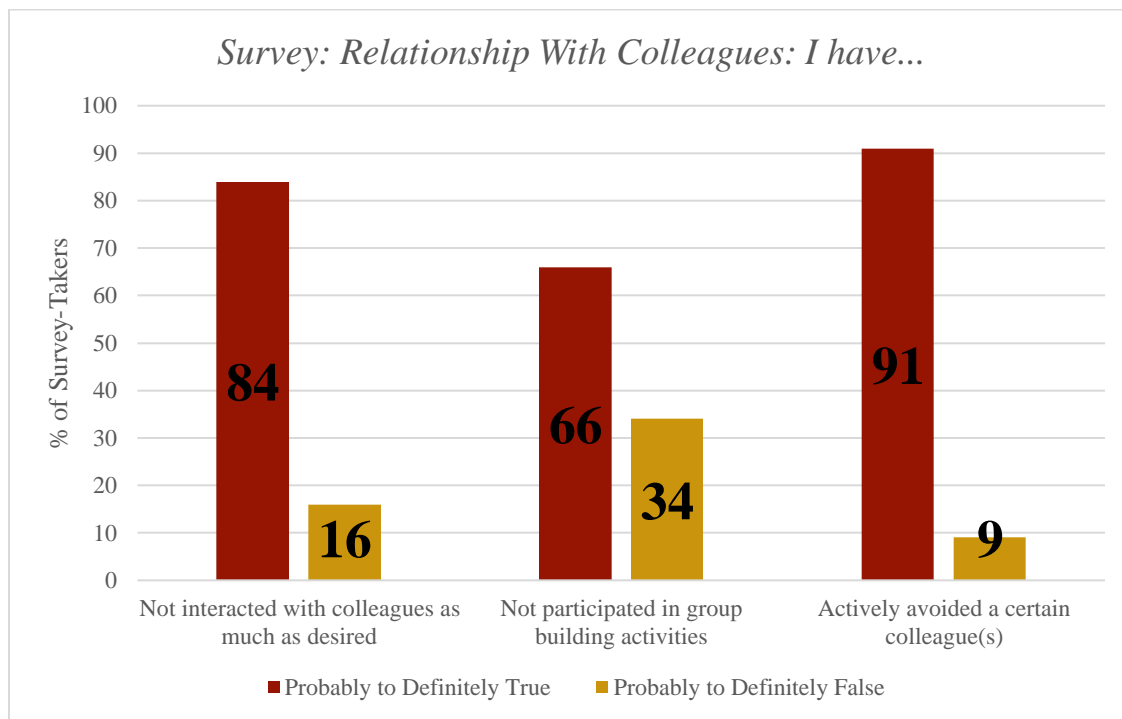
where they thought there was little possibility to control client behavior or escape when triggered. However, no interviewee stated that misophonia was the reason they had not pursued a specific career. Despite daily encounters with triggers, Participant C stated, “I don’t know what else [I] would do. All of my jobs have been public service type jobs where I’ve been around people all the time. I don’t have a choice. That’s just what I was meant to do.” This was also reflected by Participant J, “Public service is just ingrained, so I’ll power through it. I’ll figure out a way to deal with it.”

Relationship with Colleagues

91% of survey-takers reported that they have probably to definitely actively avoided at least one colleague and 84% that they did not interact with colleagues as much as desired due to their misophonia (see Figure 7). This distinction was partially explained in the interviews where Participants B, K, and H confirmed that they avoid some colleagues because they produce more triggers, but that they would not have sought a relationship with these coworkers for other reasons.

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Figure 7: Survey: Relationship with Colleagues: I have...



Note. Chart displays how misophonia affected individual and group office socialization. Most participants noted that their socialization is impacted by their misophonia with many actively avoiding at least one colleague. However, not all survey-takers who had avoided a certain colleague(s) or had socialized less desired more interaction as shown in bar 1. N=203.

To a lesser degree, respondents thought their misophonia probably to definitely caused them to not participate in group building activities. The interviews clarified this with discussions about official and unofficial group building activities³¹, such as how in meetings, at company parties, and at trainings, particularly when eating was involved, paying attention was the main difficulty and they sometimes needed to leave it temporarily or permanently. Virtual meetings offered new, sometimes more productive and less frustrating avenues for some interviewees as Zoom etiquette, while not universally

³¹ Only Participant H spoke about attending company retreats and stated that he generally tried to avoid these partially because of his misophonia.

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followed, dictates not eating. Benefits included muting the conversation or looking away from the screen for a few minutes if there were triggers.

Regarding unofficial social events, group meals presented difficulties as some would not participate and missed opportunities to socialize with coworkers, though this was not of high importance to some interviewees. Not going out for lunch or dinner sometimes affected how their coworkers saw them and was a reason for Participant H being more gregarious at non-mealtimes and was partially a reason for Participant J being so open about his misophonia at work³².

Openness with Colleagues

Most survey-takers said that they would want people in their office to be understanding if they told them about their misophonia, which was sometimes the experience for those 56% who said they had told at least one coworker about their misophonia. The degree of openness had a range. Participant F had informed some colleagues, partially due to the nature of her work, but had not detailed what her triggers were. Participant D had let her boss and another colleague know of some of her specific triggers. Equally, some remembered at least one occasion of asking a colleague to lessen or stop making a triggering sound, while others did not specify such an occasion. Participants A, B, and E's experiences reflect those of 44% of survey-takers who had never told a coworker. Participants B and E did not want anyone at work to know partially out of embarrassment and shame. On the opposite side of the spectrum were Participants G and J, who were in the minority with being more open about their misophonia in terms of letting

³² Participant J explained, "I didn't want to be seen as you know a recluse".

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not only close work friends know, but also being “assertive.” Participant G’s manager, for example, issued a no eating or chewing gum in the workspace rule at G’s request.

Reasons given for disclosing or not disclosing at work were diverse, but throughout the interviews and in the optional survey write-ins, participants voiced their concerns about telling colleagues. These seemed to be partially based on actual prior experiences of telling coworkers, family, friends, or medical professionals about their misophonia. Being met with skepticism and derision regarding misophonia’s existence or its impact on their lives were all concerns. Moreover, some worried about how this would impact their colleagues’ behavior around them. Participants D, E, and C stated they sometimes felt guilty about others adjusting their behaviors, particularly when the trigger was associated with joy for the other person, and when people became hyper-aware of noises they made and preemptively apologized for non-triggering sounds. Participants J and D had encountered a few coworkers who intentionally triggered them, which depending on the person and the tone was interpreted as a friendly jest or a form of bullying.

Coping Mechanisms³³

Headphones were the most used coping tool both in the survey and interviews (see Tables 4 & 5). Only E did not use them to cope while at work because of her job’s responsibilities, but for many of the other interviewees, headphones (often noise-canceling, mix of over-ear and in-ear, Bluetooth sometimes specified) were their key coping tool. Two had been given noise-canceling headphones by at least one company they had worked for. Noise-canceling was a particularly helpful feature because not only was sound mostly

³³ Whether or not these are medically advisable for misophonics is not considered here. However, “coping techniques” that participants described as being ineffective and/or directly injurious (e.g., self-harming) have not been included.

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blocked out, but also the wearer’s hearing was protected because the music or white-noise was played at a lower volume. Regarding workplace culture, Participants D and B were in the minority of encountering colleagues or bosses who regarded headphones as unprofessional, though in the survey between 5-12% indicated that their workplace unofficially and/or officially had a policy against wearing headphones³⁴. Other hearing protection tools were less used or less effective³⁵ and Participant G talked about providing quiet mice and keyboards to nearby coworkers.

Table 4: *Survey: Coping Mechanisms (Tools and Behaviors)*

Coping Mechanism	%
Worn headphones/earbuds	87
Worn earplugs	40
Plugged ears w/fingers	55
Left the office for the day	23
Moved workspaces for the day	40
Moved workspaces permanently	21
Meditated at my desk	12
Left desk for a break	95
⇒ Gone to the bathroom	95
⇒ Taken a walk	84
⇒ Called a friend	27
⇒ Meditated	14
⇒ Practiced yoga	4
⇒ Called a mental health professional	3

Note. Table displays the percentage of survey-takers who use certain coping mechanisms. The two most used coping mechanisms were wearing headphones and leaving one’s desk to go to the bathroom or take a walk. N=203.

³⁴ 84% of survey-takers were at least unofficially allowed to wear headphones sometimes to always.

³⁵ See Appendix D for more information.

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Table 5: *Interviews: Used coping tools*

Coping Tool	%
Headphones/earbuds	90
Earplugs	60
Ear defenders	20
Soundproof booth	20
Quiet Tech (mice, keyboards)	10

Note. Table shows the percentage of interviewees who use certain coping tools with headphones being the most popular. Only tools that interviewees explicitly brought up in the interviews, used frequently, and claimed were at least somewhat helpful with mitigating noise or their reactions were included. N=10.

However, despite the varying widespread use of these tools, only 44% of survey-takers had had jobs where most employees at the same level had been given at least one of the tools. Furthermore, 71% of survey-takers stated that they had bought at least one of these types of equipment to use at work almost exclusively, but the majority of them had never sought compensation³⁶.

Two interviewees had worked in offices where at least one soundproof booth was installed. Opinion was divided about the comfortability of the booth with Participant F using the booth quite often (though this was also part of her job) and Participant H having used them but finding them claustrophobic. Most interviewees had never seen or heard of these booths and were intrigued by the idea of them, but Participant G was worried about the upfront costs.

Along with coping tools, participants were asked about what they did when a triggering sound occurred at work (see Tables 4 & 6). In the survey, the most common action was to leave their desk for a break, which usually meant going to the bathroom or

³⁶ 144 survey-takers had bought a piece of equipment for work and 94% of them had never sought compensation.

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taking a walk. Leaving one's desk to take a walk around the office was mentioned explicitly by Participants E, B, K, and A. While they said using this coping measure could affect their productivity, they also mentioned the physiological and mental health benefits of taking walks throughout the workday³⁷. This method was also used preemptively to avoid known triggers.

Table 6: *Interviews: Practiced coping behaviors*

Coping Behaviors	%
Meditation & therapy practices	60
Going for a walk	40
Going into work early	10

Note. The table displays the percentage of interviewees who talked explicitly about engaging in these coping activities during work. Meditation and therapy practices were mentioned by six interviewees, though not all felt this was successful. N=10.

Meditation was also asked about in the survey with 12-14% saying they practiced it at or away from their desk. Six interviewees used meditation and therapy practices³⁸, though misophonia was not always the primary motivating factor for their practice³⁹. Overall, opinion was mixed on the effectiveness of these techniques in helping individuals focus and/or remain calm while being triggered.

Lastly, no interviewee mentioned a designated quiet zone in their office. Instead, in other responses, places such as the bathroom, empty conference or computer rooms, one's car, or a soundproof booth were mentioned, as well as going into work early.

³⁷ Supported by Carter et al., 2018; Gallagher et al., 2019, Taylor et al., 2013

³⁸ As "there is no consensus on defining and demarcating meditation" and the word has various cultural biases (Matko & Sedlmeier, 2019, p. 1), it has been categorized together here with therapy practices or techniques, such as breathing, grounding, and mantra exercises.

³⁹ See Appendix D for more details.

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Built Environment

Survey participants were asked to answer several questions that focused on five different common office layout types here referred to as: cubicles, open office, activity based working (ABW), shared office, and private office (see Terms for definitions). These questions centered on what kind of offices respondents work(ed) in and their opinions on them.

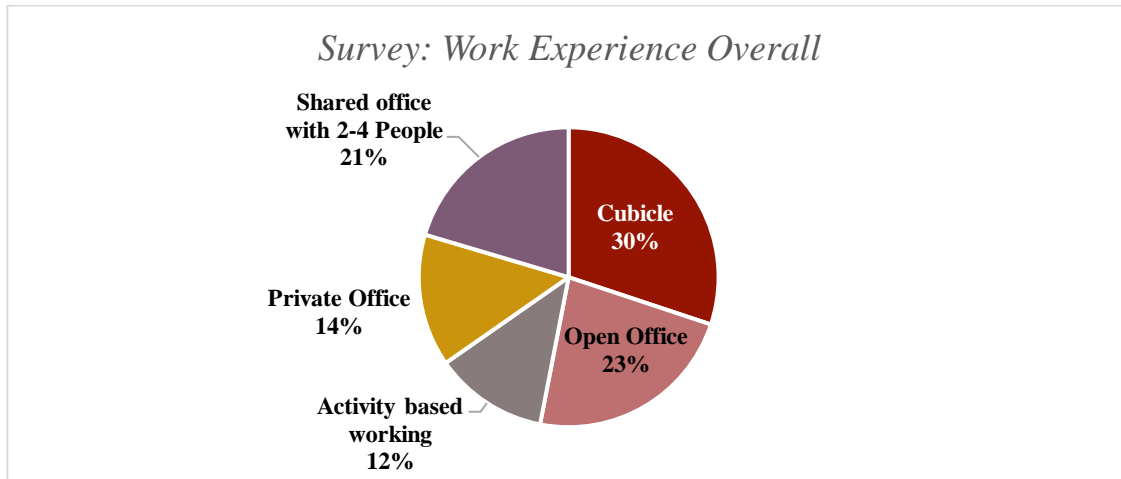
Open offices with and without cubicles and shared offices were the most popular layouts in terms of experience working in (see Figure 8). 77% strongly agreed and 13% somewhat agreed with the following statement:

“Based on my cumulative white-collar office experience, I have found that certain kind of office layouts are more difficult to work in due to my misophonia (with regards to auditory stimuli).”

Survey and interview participants detailed that certain layouts helped or hindered their focus and relationships with colleagues. In the interviews, only Participant A stated that the office layout did not affect him because he felt he would always find a trigger to focus on no matter what the layout, and his noise-canceling headphones and walking breaks helped him cope.

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Figure 8: Survey: Work Experience Overall

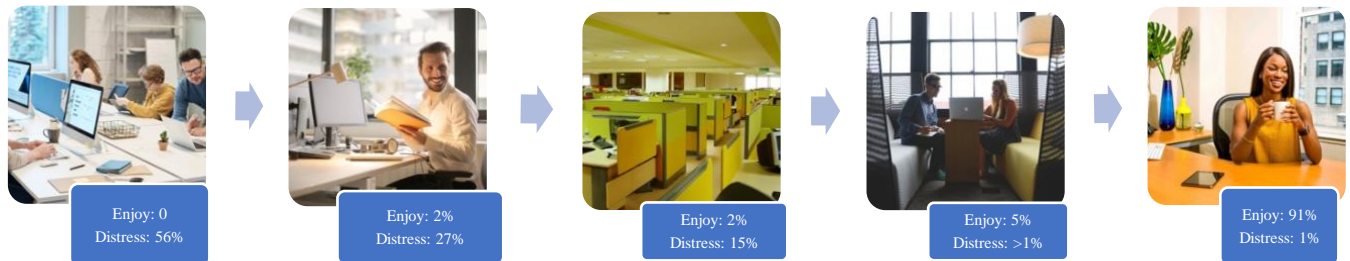


Note. Chart shows the percent of individuals who had experience working in each office layout. There was no majority with only 30% of respondents having worked in cubicles. Survey-takers were asked “Please consider your cumulative white-collar office experience and select the office layout(s) that most resembles those of workspaces you personally work or have worked in” and a picture was provided for each layout. N=203.

56% of survey-takers selected open offices as the “most distressing” and no one chose it as the “most enjoyable” (see Figure 9). The layout was criticized for having too many auditory and visual distractions (though those specified here may be distinct from those commonly seen in most research) and lacking in quiet areas, privacy, and space. Participants reported having to go to the restroom or outside to find relief from stimuli and a constant feeling of being trapped. One participant wrote they would reconsider jobs if they had an open office layout and others felt they would be unable to work productively.

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Figure 9: Survey: Preferred Office Layouts for Misophonics



Note. Figure displays which office layout types from left to right were the least to the most preferred by survey respondents (Preference= Enjoyability % - Distress %): open office, shared office, cubicles, ABW, and private office. No one reported enjoying the open office and three participants found private offices distressing. Respondents were asked “The office layout type I find or think I would find most distressing to work in with regards to my misophonia is...” and “The office layout type I most enjoy or think I would most enjoy working, especially in regards to my misophonia, in is...”. N=203. For photo accreditation, see Terms: Office Layouts.

However, while open offices elicited more intense critiques in the survey⁴⁰, the shared office was selected by 27% as the “most distressing”. Interview and survey participants mentioned how these rooms were often small (sometimes a private office that was converted), making stimuli louder than in an open office due to proximity of coworkers, poor acoustics, and a lack of background din. Privacy and lack of *escapability* were also problems. Some speculated that this arrangement could possibly work depending on room size and how accommodating and/or triggering their colleagues were.

Cubicles seemed to be the middle ground. Though over half of survey participants work(ed) in cubicles, only 15% of all survey-takers chose cubicles as the “most distressing”. While this layout had similar acoustic problems to open offices, some

⁴⁰ For example, “The open office concept is the work of evil” and “Open offices are a living hell”.

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participants reported that the number of stimuli lessened because of the noise dampening nature of the partitions and that cubicles offered some privacy and protection from visual stimuli. In the interviews, some participants responded that high, clothed partitions would be preferable for these reasons. Due to the cubicle pictures used and responses given, it is assumed that participants would also prefer single cubicle workstation desks as opposed to two people being in one cubicle or a long table with partitions. The main criticism of cubicles was still existing acoustic issues⁴¹.

ABW was the least selected “most distressing” layout and the second most selected “enjoyable” layout, but also only 24% of survey-takers had experience working in one. Most interviewees had no experience and several had never heard of this layout. Despite this, several thought this layout could be beneficial for misophonics particularly if it was designed with acoustics in mind and had rooms with closable doors, sound booths, and/or for-use private offices, and quiet areas. Participant H had worked at a company that had an intentionally designed ABW layout and preferred this over private offices. The variety of spaces for different needs (e.g., alone time, collaboration) and the flexibility to escape to different areas of the building with fewer stimuli and sit with different colleagues were key reasons. Participant F does not work in an intentionally designed ABW space, but employees have some flexibility in terms of where they work (e.g., office, cafeteria, sound booth) and this provides her with a degree of relief. However, ABW was met with some wariness⁴².

⁴¹ One respondent said that it made asking neighbors to stop making a stimuli noise more awkward because they had to message or visit their cubicle to do this as opposed to looking at them across a desk.

⁴² Participant D stated the possible constant coming and going of people would be very distracting. Participant G reinforced the point of designing with acoustics in mind when he described how the early ‘00s “Google trend” of installing a game area next to a work area would have caused him to walk out.

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Most survey-takers selected the private office as the “most enjoyable”. Some participants stated they can or thought they would be better able to focus on work due to the decrease in auditory and visual stimuli and the increased ability to control when they interacted with these stimuli, particularly when they had a door they were allowed to close. The ability to practice therapeutic techniques after encountering stimuli without onlookers was also mentioned. However, the survey write-in and interview responses did contain critiques of private offices, which mostly centered on aspects unrelated to misophonia or architecture. While five interviewees work(ed) in an office intended to be private and two by happenstance, only 28% of survey-takers work(ed) in one. Participant D commented on how the higher-ups in her workplace do not have private offices so it would be unrealistic for her to get one and that if she did, other colleagues might make negative comments about it. Participant J said that while he would prefer to work in a private space, he understood that it could make managing and communication more difficult. The few architectural critiques concerned how well-insulated from outside noises the private offices were, which reflected the experience of Participant K, who works in a private office with little insulation. Her solution of wearing headphones even in her private office was suggested by other survey-takers who also acknowledged these acoustic issues⁴³.

Work From Home

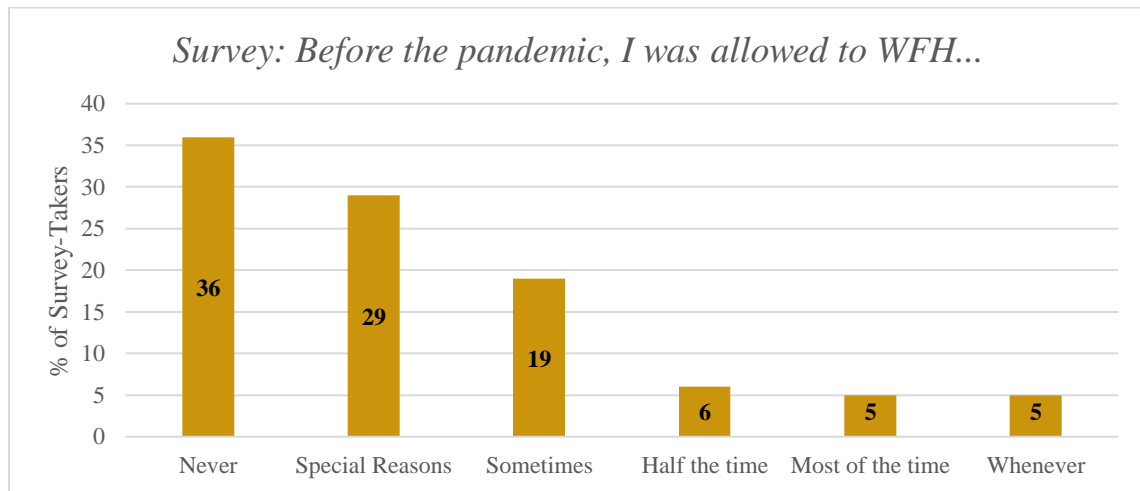
36% of survey-takers were not allowed to WFH pre-pandemic and 29% only for special reasons (see Figure 10). Due to their misophonia, 67% of survey respondents found WFH more enjoyable and productive than working in the office and 73% somewhat to

⁴³ Some participants offered other solutions to the architectural issue, such as using a white noise machine, and to the communication issue, such as having a friendly sign on the door inviting people to knock, socializing with colleagues during breaks, and efficiently using messaging services.

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strongly agreed with the statement: “If possible, I would like to work from home almost exclusively because of my misophonia”. WFH was viewed positively as it generally entailed fewer encounters with auditory and visual stimuli and freedom to use coping mechanisms.

Figure 10: Survey: Before the pandemic, I was allowed to WFH...



Note. Chart illustrates if and how often survey respondents were allowed to work from home before the pandemic. Most respondents did not have a white-collar job that allowed them to regularly WFH with 36% never being allowed, 29% only for special reasons, and 19% sometimes. Less than 20% were allowed to regularly work from home. N=203.

Six interviewees did not have extensive experience of WFH pre-pandemic⁴⁴ and were unsure whether WFH would continue post-pandemic. Three of these interviewees stated that they are nervous about going back to the office or going back to pre-pandemic office conditions due to the number of stimuli and a belief that they are more productive at

⁴⁴ Participants G and H were already working from home almost exclusively, while Participants C and K continued to go to their offices throughout the pandemic.

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home. Only one interviewee said she believed her misophonia has worsened since exclusively WFH.

A desire for a mix of WFH and going into the office was voiced by two individuals. Participant J opted for a mix because he is a social person and would miss the interaction, but also as he and Participant F highlighted WFH might be difficult for some misophonics who have loud neighbors, thin walls, or distracting roommates. These concerns, as well as difficulties making connections with coworkers and networking, were some of the few drawbacks of WFH mentioned. Interviewees mostly listed the positives of it and how it helped them better cope with their misophonia.

Ideal Office Space

While private offices were the preferred office layout in the survey, when nine interviewees were asked to design their ideal office, the answers were more varied. Participants K and D wanted private offices with closable doors. Two interviewees who would prefer to have their own offices speculated that private offices for everyone might not be possible due to management, collaborative, and economic reasons. They each suggested updates to an open office layout with 1) Participant B stating having enough room for each employee, quieter areas, and background noise were potential add-ons, and 2) Participant J opting for *cubicle-d* offices with for-use private workspaces. Mixed spaces with quiet areas, for-use private offices, booths, and separated work areas that were acoustically designed (e.g., angled walls, insulating materials, etc.) were also proposed by Participants F, G, and H. Participant E mentioned using calming colors, plants, and windows to create a “Zen environment”. Lastly, a designated quiet room for employees to use was strongly supported by 82% of survey-takers.

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Policy

Flexibility

When asked their opinion on various aspects of policies, there was a high degree of support for flexible policies (see Table 7). Some interviewees work(ed) in jobs that had already incorporated some of these policies and saw them as helpful in managing their misophonia. Flexibility was seen as key in many interviewees' ideal policies. However, there were concerns about how realistic this would be to organize or for certain jobs like Participant C's. There were minor discussions of contradictions that could arise from having flexible offices (e.g., people eating at their desk), but triggering other misophonics (e.g., bringing laptops into areas that traditionally are typing free) was not brought up.

Table 7: *Survey: Opinions on flexible policies*

I think when it does not interfere with completing the basic tasks of the job or following security protocols, white-collar offices should have flexible policies in terms of...	Strongly agree	Somewhat agree	Total agree
what sound lessening equipment can be used	91	7	98%
where people can work in the office	81	14	95%
where people can work from (e.g., home, cafes, etc.)	72	21	93%
when people can take short breaks	80	16	96%
when people can work in office or at home	72	21	93%

Note. Table illustrates that survey-takers were mostly strongly for different flexibility policies, particularly what sound lessening equipment could be used in the office. N=203.

Bans

While the survey and interviews were more conclusive on flexibility, bans on certain behaviors and personal items were less so (see Figures 11 and 12). Two

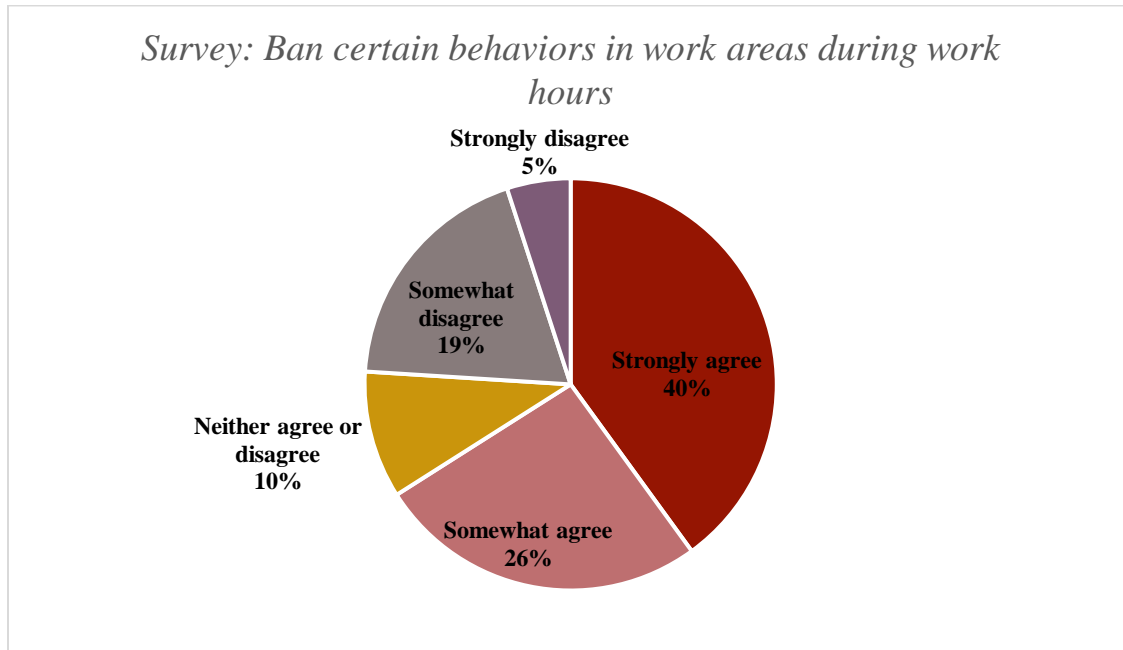
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interviewees had worked in places where gum chewing was banned because it was viewed as unprofessional (Participant B) or because they had asked for it to be because of misophonia (Participant G). Those interviewees who answered that they strongly to somewhat agreed with a ban on certain behaviors explained that they had answered that way because it was simply what they hypothetically wished and/or did not believe was an infringement on their coworkers. Participant G mentioned he would not make a preemptive ban, but would and did wait to see if something became an issue and then brought it to his boss or the offender. Others, however, were either indifferent or against bans on certain behaviors because they did not want to limit their coworkers for something that they thought only bothered them. Participant H also explained that he did not think bans were a suitable method because “it would have more negative repercussions than positives” for misophonia awareness and advocacy. This was also echoed in one survey response:

“I really don't feel like HR policies should get into policing the noises people make during the day. What standards could possibly be used? To people without sound sensitivity, the things that regularly set off Misophonia sufferers would probably seem absolutely nuts. I worry that trying to get Misophonia recognized as a true impairment/disability might relegate it to the category currently occupied by things like fragrance bans for people with chemical sensitivity--difficult to enforce and easy for non-sufferers to think of as a joke. I worry it could undercut acceptance of Misophonia as a legitimate source of suffering, not because it isn't, but because HR policies in America are frequently opaque, unenforceable, and the source of confusion/derision/anger.”

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Figure 11: Survey: Ban certain behaviors in work areas during work hours



Note. Figure displays responses to the prompt, “I think when it does not interfere with completing the basic tasks of the job or following security protocols, white-collar offices should ban certain behaviors in work areas during work hours”. Certain behaviors might include chewing gum and eating. Most respondents (66%) somewhat to strongly agreed to behavior bans with only 5% being strongly opposed. N=203.

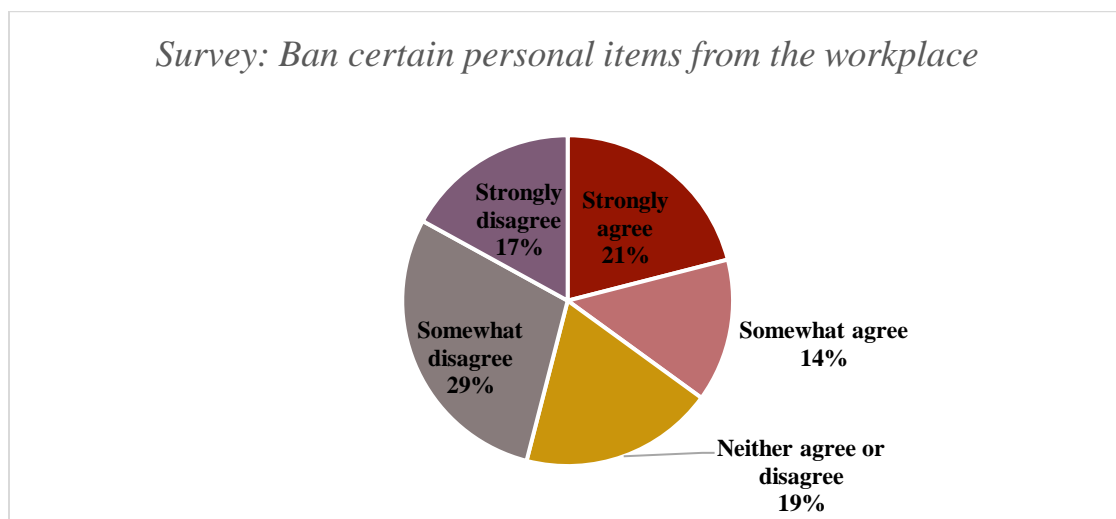
In regards to banning certain personal items, survey-takers were less in agreement (see Figure 12). These items are associated with sounds that were rated as less triggering to the majority, but Participant J also explained the distinction between the two questions for himself,

“I mean I never want to tell anyone what to do, right? If I was a manager or I ran a business, I would have guidelines for clothes, but I would never want to tell a woman that their fingernails are distracting or inappropriate for the workplace. I feel like that to me is a little bit too gritty and too not allowing people to express themselves, which I think is really important, especially at work...You know having a dress code, they can’t wear a graphic tee with Iron Maiden on it. That’s a

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different expression. It's a professional workplace, you don't - you have to wear a pantsuit or for men a button-up with jeans at the least or you know slacks is different, but telling someone they can't chew gum is I don't think is too much of an invasion of who they are, an expression. Chewing gum, you're not expressing yourself. It's not something that's integral to who you are. It doesn't define you. I feel like there's a difference between telling someone they can and cannot wear an item of clothing and they can and cannot chew gum at the office."

Figure 12: Survey: Ban certain personal items from the workplace



Note. Figure shows responses to the prompt, "I think when it does not interfere with completing the basic tasks of the job or following security protocols, white-collar offices should ban certain personal items from the workplace". Personal items could include long fake nails, dangling jewelry, or analogue clocks. Opinion was more divided here than with banning behaviors as 35% somewhat to strongly agreed and 46% somewhat to strongly disagreed. N=203.

There was also some discussion on how bans could be counterproductive or contrary. For example, if all workers could only eat in one office area, this could mean some misophonics might need to eat lunch outside or at an odd time. As Participants G and

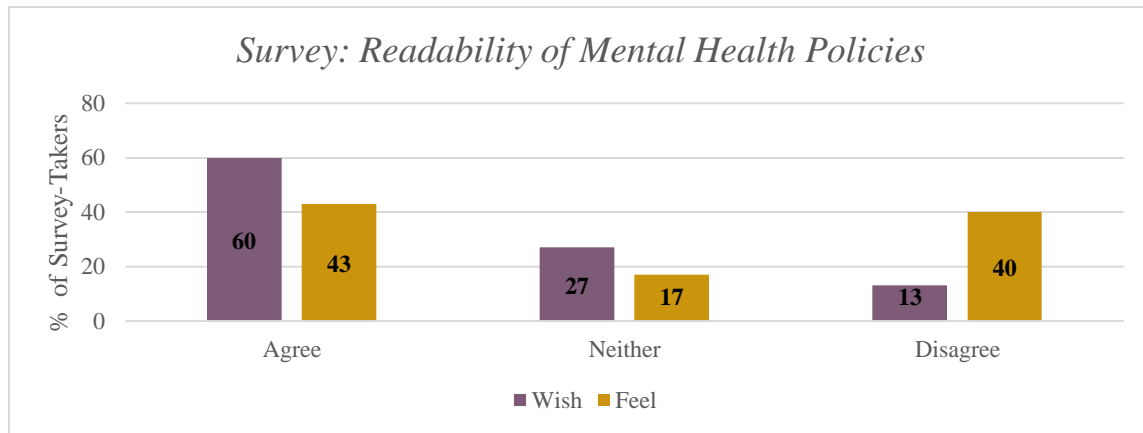
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J disclosed that they also have ADHD, they were asked about gum chewing as an ADHD coping mechanism and how a ban could affect this. They acknowledged possible issues that could arise from this and thought solutions could be found that would accommodate both people⁴⁵.

Policy Knowledge

Survey-takers were asked several questions about 1) how they perceived the readability of their workplaces' mental health and disability policies and 2) if they wished these were easier to understand. While opinion was mixed on the current state of policy readability, the majority were not opposed to having more coherent policies (see Figures 13 & 14).

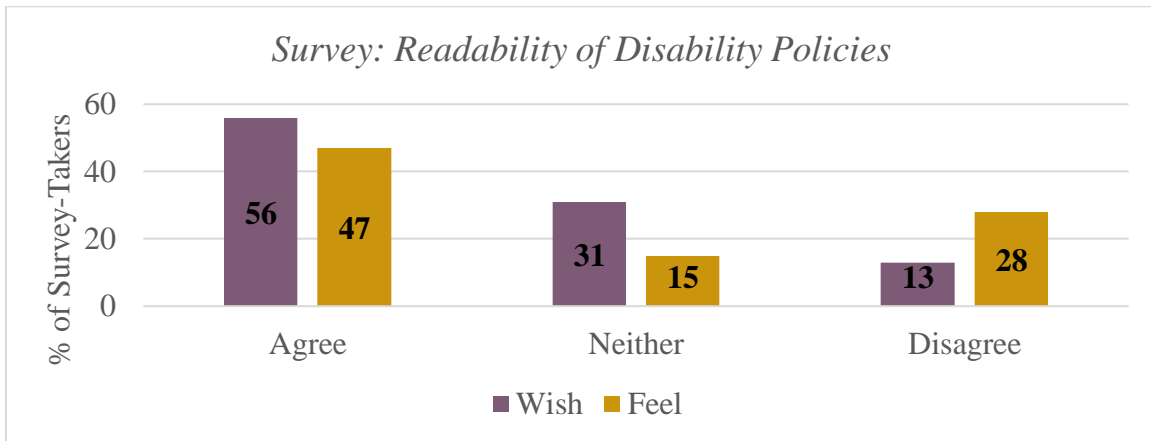
Figure 13: *Survey Readability of Mental Health Policies*



Note. Chart displays survey-takers responses to “I wish my workplace had policies regarding mental health that were easier to understand” and “I feel my workplace has easily understandable policies regarding mental health”. 60% of survey respondents wished their offices had more readable mental health policies, despite 43% agreeing that their office already has easily understandable policies. N=203.

⁴⁵ Participant G had encountered a similar issue before with a fidget cube and had resolved it one-on-one with the person. Some trigger sounds mentioned by participants (e.g., coughing, throat clearing, fidgeting, tapping, dogs licking) could be part of another neurodiverse individual's (e.g., an autistic person or an individual with Tourette's syndrome, ADHD, epilepsy) coping toolbox (Foreman et al., 2017; Rotz & Wright, 2020; NINDS, n.d.).

Figure 14: Survey: Readability of Disability Policies



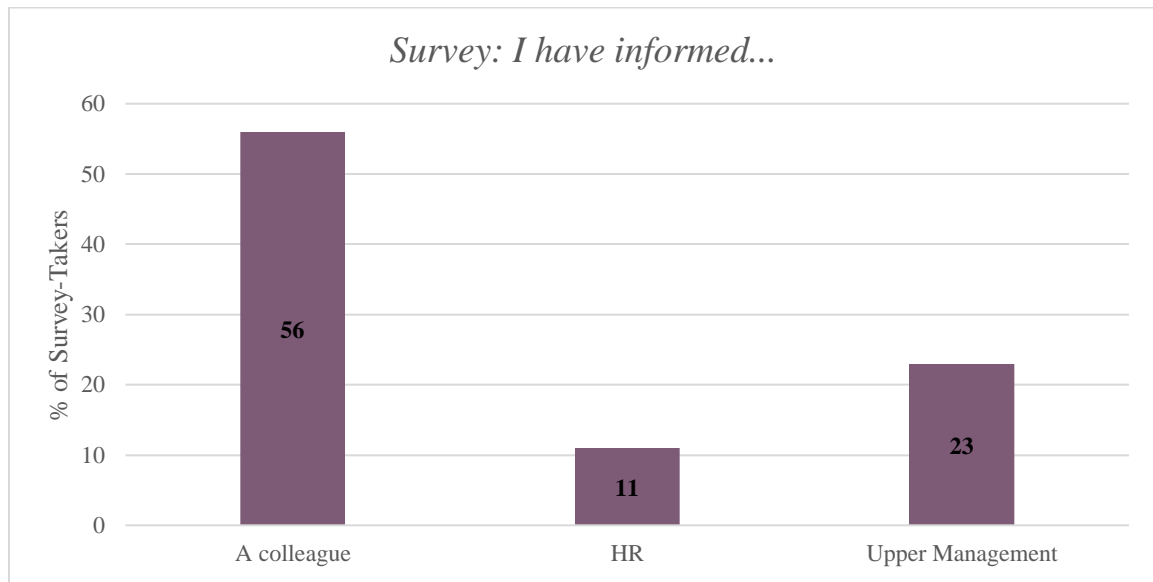
Note. Figure displays survey responses to “I wish my workplace had policies regarding disabilities or impairments that were easier to understand” and “I feel my workplace has easily understandable policies regarding disabilities or impairments.” 56% of survey respondents wanted more readable disability/impairment policies despite 47% feeling their offices’ policies were already understandable. In the “feel” question, “I don’t know” was an option selected by 10%, but is not displayed here. N=203.

Thoughts on Upper Management and HR

Participants G, F, and D had all told a boss they felt comfortable with, which helped them use different coping techniques without being questioned. Participant G was also able to change the policy in his office because he had informed his boss. However, while Participant K feels she now has a very supportive work environment with an understanding boss and colleagues, she felt her prior boss had not been supportive. These responses reflect the minority of survey-takers who have told someone in upper management (see Figure 15).

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Figure 15: Survey: I have informed...



Note. Chart illustrates how most survey-takers have never told HR or upper management about their misophonia. However, 56% told at least one colleague that they have misophonia. N=203.

Even fewer people reported telling HR or a similar department⁴⁶. Moreover, 73% of survey-takers somewhat to strongly disagreed with the statement, “I feel comfortable going to HR to talk about my misophonia” and 54% with “I would want to go to HR to talk about my misophonia”. The interviews revealed differing thoughts on HR’s purpose, abilities, and responsibilities. Most had little to no experience with HR and there was skepticism about what HR could do. A few individuals initially talked about HR’s role as an interpersonal conflict mediator and stated they preferred not to report people and to talk to the offender one-on-one if need be. Some individuals expressed additional concern that HR would dismiss any requests and see the individual as “unstable” (Participant B) because the condition is not well-known. This, a fulfilled request that fuels resentment amongst

⁴⁶ Though again, this could be due to differences in office structure.

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coworkers (e.g., getting a private office, bans), and “going above your boss’s head” (Participant K) were concerns that talking to HR could worsen the situation.

However, when asked about what they thought HR could do in an ideal situation, the responses were more optimistic. Some thought that HR could help with getting or compensating certain coping tools, arranging ergonomic assessments that included a sound component, or helping management understand the individual’s needs. HR was also seen as a potential ally in spreading misophonia awareness, which could be done through informational materials (e.g., brochures, videos), ergonomic assessments, and onboarding questionnaires.

DISCUSSION

The survey and interviews, along with prior research into misophonia, show that for some misophonics, the syndrome greatly affects both their personal and professional lives. It can negatively affect at least self-perceived levels of productivity and socialization in the workplace. It can also negatively affect some misophonics' overall sense of well-being due to internal reactions to triggers, guilt, secrecy, and stress. For the majority, encountering more intense triggers at the workplace was frequent and, while triggers were to some degree individualistic, the most intense triggers did not emanate from office equipment (e.g., keyboards, mice, printers, etc.), rather from humans chewing loudly, gum popping, slurping, etc. Misophonia was also not static with the condition sometimes being perceived to worsen and/or the ability to employ coping skills improving.

Moreover, following the normal trend (Palumbo et al., 2018), the majority of interviewees began experiencing misophonia during childhood or adolescence, which meant by the time they were beginning to work in white-collar jobs, they knew some of the stimuli that triggered them and had become accustomed to certain coping techniques. Some had also already had experiences of disclosing, asking for assistance, and not sharing, which seemed to inform their decision to disclose at work partially. Socialization at the workplace was also affected by misophonia, particularly in terms of misophonics avoiding certain coworkers at the office. Despite the frequency and the perceived adverse effects of being triggered, only a minority thought misophonia had affected major professional life decisions (e.g., quitting, seeking or refusing promotion, etc.). It played a slightly greater role in day-to-day decisions (e.g., seating arrangements, absences, etc.) and contributed to a sense of unease about future job opportunities.

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In the interviews, most participants assessed themselves as having mild to severe misophonia but had obtained and maintained self-fulfilling work. However, as they discussed throughout the interview, productivity was often partially dependent on using their preferred coping mechanisms. Being able to officially and unofficially use key coping tools, like headphones (particularly noise-canceling), and having the flexibility to take breaks, work from different places in the office, and work from home at least part-time were all seen as important in terms of managing misophonia in the interviews and survey. As opposed to changing the architecture or layout of the office, these policies and social attitudes toward flexibility were seen as achievable as they required less up-front cost, had been introduced during the pandemic, or were already in place in several interviewees' offices.

The rest of the discussion section will be used to examine and contextualize some of the results, as well as some of the perceived carriers and barriers to making offices more misophonia-friendly and how some of these changes are supported by sustainability research.

Lack of Misophonia Awareness and Understanding

Almost all interviewees and several survey-takers voiced that because misophonia is not known about outside of certain fields or sometimes seems to be reduced to “just not liking a sound”, this negatively affected employee's abilities to disclose, seek reasonable accommodations, change workplace architecture and policies, or use preferred coping mechanisms, despite laws that might support doing so. Lack of awareness of misophonia could be considered the main barrier as it is pervasive.

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Disclosure to Colleagues, HR, and Supervisors

Perceived Barriers	Perceived Carriers
Negative social and professional effects of disclosing	Other misophonics have disclosed and had positive experiences and more people are aware of mental health and neurodiversities
Lack of knowledge about disclosure and accommodation legislation	Legislation that supports reasonable accommodations
Perceptions of the word “disabled”, particularly by other people	Perceptions of the word “disabled” changing
Not all workplaces are financially able to provide or interested in well-being assessments and information	Many workplaces already try to educate employees about different conditions and are interested in improving well-being

Many participants had experience disclosing formally or informally to a colleague(s) and less with supervisor(s), HR, etc., and did so for a variety of reasons. The interviewee respondents who had confided to at least one person in their office did seem to find disclosure overall helpful as coworkers could be a source of comfort or were more accommodating, there was less anxiety about continuously hiding, and trusted supervisors sometimes helped the individual receive accommodations formally or informally. However, the decision to disclose at work (whether to receive formal accommodations or not) is complicated and cannot “be reduced to personal traits such as honesty/dishonesty” (Norstedt, 2019, p. 22). For invisible impairments in particular, disclosure can be a “double-edged sword” where those with the impairment normalize asking for accommodations and are able to do their jobs more comfortably and/or efficiently, but simultaneously other themselves (Moloney et al., 2019). The decision to “come out”⁴⁷ can be influenced by the condition’s perceived impact on the individual’s efficiency and sense of well-being (Moloney, 2019; von Schrader et al., 2014; Wilton, 2006; Norstedt, 2019;

⁴⁷ Mauldin (2018) writes, “coming out as disabled is not the same as ‘coming to terms with impairment,’ but is about assuming a social identity as a disabled person, and often about taking on a politicized understanding of disability (Shakespeare, 1999, p. 41)”.

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Sherbin, 2017). While there did not seem to be a correlation between interviewees who chose to be open to at least one person at work and self-assessed severity, the possible correlation in the interviews between calling it a disability and severity does echo these findings. A country's legal framework and cultural norms can also influence the decision and these components can sometimes conflict (Sherbin, 2017)⁴⁸.

The choice to disclose is also influenced by the culture and climate of the workplace (Moloney, 2019; von Schrader et al., 2014; Wilton, 2006; Norstedt, 2019; Sherbin, 2017). Wilton (2006) writes, "it is important to recognize the capacity of the work environment to enable or disable workers with different impairments" (p. 36). Other studies into workplace disclosure within the study region have found there are substantiated worries about privacy, colleagues' perceptions and reactions, and job retention. Participants in this study shared similar worries, particularly regarding how other colleagues would respond to the disclosure and any accommodations they received⁴⁹. Though responses to the question of the impact of gender identity were mixed, this is another factor to consider as (self-)stigmatization of gender and disability can intersect and pose additional hurdles to disclosure and acceptance (Moloney, 2019)⁵⁰.

⁴⁸ Germany, for example, has a "comprehensive system for defining disability and ensuring inclusion in the workforce" that includes benefits for employers and employees, but in part due to "a cultural tendency to separate work life from personal life", employees do not want to disclose or do not feel secure doing so (Sherbin et al., 2017, p. 14-15). The UK has "a universal healthcare system" that entails employees are not reliant on their employer for insurance and "relatively favorable attitudes toward mental health conditions", which may be part of the reason why disclosure of invisible disabilities are higher than in the US (ibid., p. 20).

⁴⁹ Concerns over being fired or not being hired were only expressed by a few perhaps due to the nature of their work, work environment, or as misophonia is not visible, meaning accommodations could be addressed after the hiring process was completed

⁵⁰ Gender identity is just one intersectional characteristic that must be considered (Diversity & Ability, 2019).

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One aspect of creating an accommodating workplace can be helping all employees understand who can and how to receive accommodations (Wilton, 2006), as well as “the inappropriateness and the possible legal consequences of treating people with disabilities as less valued members of a workplace” (von Schrader et al., 2014, p. 253) and of not adhering to privacy laws (Norstedt, 2019). Educating and training supervisors is also key because there is evidence that a positive correlation between supportive supervisors and disclosure exists (von Schrader et al., 2014). The importance of creating effective educational resources (e.g., videos, brochures, tutorials) on these topics was reflected in the survey results as it showed that while some people did think their workplace had understandable policies about disability and mental health, the majority still wished their employer had more readable policies. Also, while doubt about workplaces even being able to help them was a barrier for some interviewees, there was also evidence of not understanding what is required specifically by the ADA for obtaining reasonable accommodations and that misophonia, while not well understood by all medical practitioners and not in the DSM-5, could qualify⁵¹ (Loy, n.d.). Participant G was the only interviewee who as an adult, at the workplace, had received accommodation for misophonia through ADA legislation. He felt comfortable doing this because he had educated himself, received supporting medical referrals from an audiologist and mental health practitioner, and felt his work environment was accommodating.

⁵¹ From JAN (n.d.): “The ADA does not contain a list of medical conditions that constitute disabilities. Instead, the ADA has a general definition of disability that each person must meet. A person has a disability if he/she has a physical or mental impairment that substantially limits one or more major life activities, a record of such an impairment, or is regarded as having an impairment.”

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While educating employees about ADA (or country-relevant) legalities could be one crucial step, most interviewees thought ideally HR could help raise awareness about misophonia through informational materials and adapted ergonomic assessments that included auditory elements, which could help make disclosure easier. However, the interview responses to the question about how they hoped HR could help misophonics versus to questions about interviewees' history with HR or if they would ever go to HR for assistance were different. In the survey and interviews, there seemed to be apathy and even distrust toward current HR. While the wish of some interviewees to resolve any conflict with a colleague one-on-one can be read as a sign of empowerment, the doubts about HR personnel caring or being able to effectively resolve conflicts or assist may be a consequence of the last decades' general trend of HR managers being more "preoccupied with the implementation of coercive business strategies and the rationalisation of work routines in the interests of higher productivity and task effectiveness" than about "People and their needs" (Matthews et al., 2018, p. 120-121). This lack of connection between labor and HR can negatively impact the employees and the business, particularly those that are invested in sustainability (ibid.; Glavas, 2018). Thus, these issues touch upon those being discussed in the Green HR Management (GHRM) field, particularly in research into HRM "expand[ing] its gestalt from management of resources to one in which it is a vehicle through which individuals, and the planet, could thrive" and in which HRM stands for "humans really matter" (Glavas, 2018, p. 156). It argues that when employees feel safe, respected, and valued, they are able to bring more of themselves to the job, and feel the values the company espouses to customers or shareholders are actually aligned with internal practices, the company can become more sustainable (Glavas, 2018). Thus, by

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fostering an HRM that not only employs good practices but actively seeks to understand and respond to the needs of its workforce, companies can create a more sustainable business (ibid.).

Still, however, as Norstedt (2019) illustrates, there can be a disconnect between HR or supervisors and employees even when the company promotes worker well-being and an accommodating environment. Employers may see disclosure as a positive thing, but still struggle to foster this environment both for potential and current employees. Thus, it is key for businesses to go beyond simple messaging about diversity and not assume that because it may be considered trendy to talk about mental health that workers will feel safe or engendered to do so (Wilton, 2006; Norstedt, 2019). Additionally, it is important to examine how on-the-ground practices might foster or contradict policy improvement and to acknowledge that current formal disclosure protocols or the bare minimum from the government might not be enough. Ultimately, there is not a one-size-fits-all guide for workplaces or employees on how to disclose, but ideas from disability studies and Green HRM may make it easier to make workplaces more accommodating and sustainable.

Using the Term Disability

For those who wish/need to receive formal accommodations as Participant G did, the ADA offers language, protocol, and provisions that can assist in this endeavor. However, most interview respondents who said they would call their own misophonia a disability, were hesitant about using the term. Ostiguy et al. (2016) write, “In some cases, people whose disabilities are not always apparent to others may be reluctant to put themselves in the same boat with people whose disabilities are more apparent” for a variety of reasons (p. 320) although the adoption of the word “disability” does not technically

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require a person to identify themselves as being “disabled” (Campbell, 2009)⁵². The concerns about not feeling disabled, not feeling impaired enough, not fitting stereotypes of the disabled in other people’s eyes, further delegitimizing misophonia, being othered, and having to adopt a new identity, as well as semantics (e.g., impairment vs. disability), were all factors here. Thus, while one carrier in the US may be that disability laws include different impairments and there is not a set list of disabilities, the realities and concerns of disclosing and using the word “disability” could prove barriers in increasing misophonia awareness and spurring changes in the workplace.

Built Environment

Perceived Barriers	Perceived Carriers
Upfront costs of private offices and other office accommodations (e.g., sound booths, insulation materials, innovative designs, more room per person)	The pandemic’s effect on rethinking office design and offering a chance to change how offices work
Preference for spaces where surveillance on employees is easier	Non-misophonics not enjoying and research against open offices
Misophonic triggers are so diverse	Offices are being designed for and by people with impairments, neurodiversities, etc.

Based on research on misophonia triggers, on how office layouts and related noise might influence job satisfaction and health, and how open offices can negatively affect productivity and usually have poor sound and visual distraction control (Kim & de Dear, 2013; Evans & Johnson, 2000; Pouwels, 2020; Danielsson & Bodin, 2009; Otterbring et al., 2020; Austin & Pisano, 2017), it was assumed that most survey-takers would find certain office layouts more difficult to work in. It was also assumed that the “most

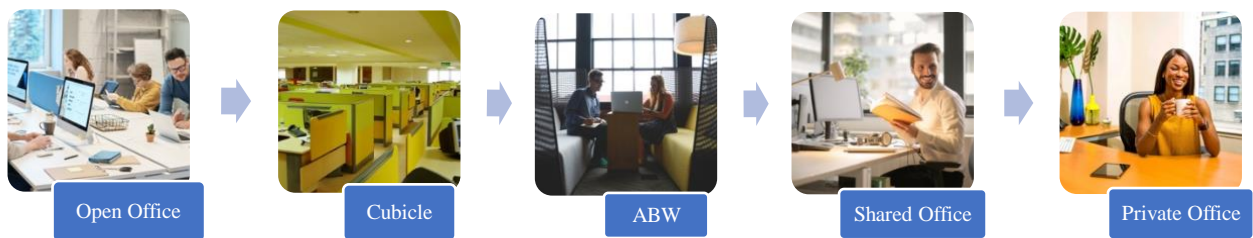
⁵² “Sometimes disabled people adopt the labels of disablement ‘strategically’ to gain access to social benefits”, but this adoption “does not mean that an individual with a disability holds to a belief that ‘they are disabled’” (Campbell, 2009 p. 26-27). There are conflicting opinions on this “dualism” with some seeing it as internalized ableism (ibid.).

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distressing” and “least enjoyable” layouts would be those where many people sit together with little to no partitions, whereas the “least distressing” and “most enjoyable” office layouts would be where fewer people sit together with more partitions (see Figure 16).

This was partially correct (see Figure 9).

Figure 16: Survey: Expected Preferred Office Layouts for Misophonics



Note. Figure illustrates the assumption of what office layouts would be least to most preferred based on misophonia and office literature. It was expected that the open office would be the most distressing office layout to work in and the private office would be the most enjoyed office layout due to noise and privacy concerns. The assumption about preferred office layouts was partially correct, but many survey-takers thought shared offices were the most distressing. See Figure 9 for the actual results. For photo accreditation, see Terms: Office Layouts.

The result for the “most distressing” type of office was expected⁵³. The dislike and purported negatives of open offices found in the survey and interviews appear at a time

⁵³ In research that did not focus on individuals with neurological or sensory conditions, employees in open offices found themselves distracted from their work, stressed, and sometimes not more enabled to communicate with colleagues (Kim & de Dear, 2013; Evans & Johnson, 2000; Pouwels, 2020; Danielsson & Bodin, 2009; Otterbring et al., 2020). Research that has focused on individuals with different neurodiversities, has found that a “common thread” amongst them is being overstimulated by certain work environments like open offices (Love, 2019; Austin & Pisano, 2017). So while office layout studies that do not focus explicitly on those with neurodiversities do not usually include common misophonia triggers (particularly the mouth sounds found most triggering here), there is evidence that the open office is particularly too noisy for many. Evans & Johnson (2000) write, “assuming that just because people fail to report that environmental conditions are negative” does not entail that “no adverse impacts have occurred.” Other people may find certain “misophonic” triggers disruptive, but have not been asked about them explicitly. However, one issue with research into open offices is that the term can be used indiscriminately

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when some grey articles are reporting that in part due to the pandemic, open offices are “dead”. Mainstream media about the end of the unpartitioned open office are not new (Dubner, 2019), but the pandemic has brought discussions on its effectiveness and suitability into the mainstream again with articles citing WFH, technology, health & safety concerns, and/or employee’s preferences and needs as contributing to its “death” (Berg, 2021; Hartmans, 2020; Vanderhoof, 2020; Gibbens, 2020). Its “death” is not certain, however, and one of the ultimate barriers to this is the at least short-term financial gains of building and maintaining this layout (Otterbring et al., 2020; Pouwels, 2020; Gibbens, 2020; Vanderhoof, 2020)⁵⁴, which some interviewees also noted. Pouwels’ (2020) report on the current state of pros and cons of open offices for the European Parliament (EP) illustrates a possible way forward, however. While budgetary costs are one factor in why the European Commission (EC) has not canceled plans to build open offices despite the drawbacks and the pandemic, it has stressed that it “wants an approach that fits the task an employee is working on” (p. 8-9), feels this matches with the collaborative nature of employees’ work, and has built areas for concentrating. If this office layout does support the kind of work EC employees do, this consideration tracks with what other EP sectors have done. The European Court of Justice decided not to introduce open offices after a staff survey showed that employees preferred private offices and non-distracting workspaces (ibid.). The European Court of Auditors tested a pilot project with open offices

and sometimes includes cubicle open offices. Participants can also have attitudes about “the grass is always greener”. Additionally, research is mixed on the positive and negative effects cubicle, ABW, and shared offices have on noise, concentration, productivity, well-being, and privacy (Danielsson & Bodin, 2009; Roberts et al., 2019; Engelen et al. 2019; Jensen & Edward, 2005). Private offices have also been found to suffer from acoustical issues, but to a lesser degree (ibid.).

⁵⁴ Open offices can have collaborative benefits and as participants discussed, and be preferable to small, “quiet” enclosed shared offices due to background din. Participants in Jensen & Edward’s (2005) study preferred open offices to cubicles because of speech privacy.

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to try out “new working habits”, but ultimately kept the single or double occupancy offices (ibid., p. 9-10).

These approaches of assessing what kind of office layout fits employees’ tasks, understanding that tasks can change throughout the day, getting employee feedback, and not having upfront costs as the prime determiner follow recommendations from research on how to improve workspaces for employee’s well-being and rights (Danielsson & Bodin, 2009; Heylighen, 2008). Heylighen (2008) outlines, people who use, work, or live in these spaces have an important role in design because they may have “experiential” and “tacit design knowledge” that has not been influenced by the “social mores of [the architectural] profession” which can be removed from users’ priorities (p. 11). Furthermore, people with impairments or disabled persons are key actors in the design process as they can “detect misfits that most architects are not even aware of” (ibid.). Designing spaces that are intended to “simplify life for everyone” and are “accessible, usable and attractive...to people of all ages and abilities” are key tenants of Universal Design (UD) (Vavik & Keitsch, 2010, p. 297), which shares theoretical and methodological characteristics with sustainability (ibid.; Heylighen, 2008). As with sustainability, developing UD concepts requires iterative feedback and innovation, especially when considering that architecture has usually considered disability as an afterthought and something that has to be tacked on instead of as a place where design can come from (The Design School, ASU, 2021; Pitcher, 2020; Boys, 2014)⁵⁵. Research on less stimulating office design for autistic individuals is

⁵⁵ Ultimately, there is not a one-size-fits-all, perfect office space even within UD. Ostiguy et al. (2016) write, one disability's accommodations can contradict those of another disability, and finding ways for multiple differences to successfully coexist in an office is sometimes not an easy endeavor, but it is a necessary one that will require feedback and innovation. Sometimes workplaces will have to address these issues on a case-by-case basis and “the concept of universal design remains aspirational” (p. 323). Accommodations for different conditions creating tensions in the office were brought up to a minor degree in the interviews and survey, though this mostly had to do with non-architectural accommodations.

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ongoing (Shell, n.d.; Woo, 2019; Austin & Piscano, 2017; Dominus, 2019) and as interest in and awareness of neurodiversity increases, misophonics might benefit from these changes and be able to contribute to the discourse⁵⁶.

Policy

Flexibility

Flexibility (e.g., in scheduling, breaks, working places, using coping mechanisms) was asked about as it is recommended to support employees with neurodiversities (Loy, n.d.; Austin & Pisano, 2017; Love, 2019). The survey confirmed that this was something individuals with misophonia supported. The perceived barriers to policy changes were more mixed, and most interviewees did not explicitly voice any. From the few that did, some saw lack of awareness of misophonia and other sensory conditions as a barrier, as well as organizational practicalities⁵⁷, reluctance to change the status quo, and skepticism about the benefits of giving employees more flexibility. Thus, the pandemic was seen as a potential carrier as employees and employers had become more accustomed to WFH and presumably to more flexibility in how the work was done (e.g., with headphones on, taking breaks, etc.)⁵⁸. The majority's desire to at least have a hybrid WFH situation reflects the findings of Microsoft Surface's (2021) report where 56% of 4,000 UK office workers were happier working from home. However, as was discussed with architecture, "A one-size-

However, in regards to misophonia, sound booths are one example of a space that employers would need to consider the design of to make sure they are accessible for all body types.

⁵⁶ Improving the design of workspaces was something several interviewees were interested in looking at and contributing.

⁵⁷ There are professions and positions where different kinds of flexibility will not be possible. Businesses will also have to have certain infrastructure to support remote working, hot desking, mobility, etc. (Microsoft Surface, 2021) and consider employees' living situations.

⁵⁸ Employees across multiple sectors in the selected countries now had more experience working from home (Smith, 2020; Parker et al. 2020; EAE News, 2020; Davies, 2020; Stats NZ, 2020; PwC, 2020),

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fits-all approach cannot work for all staff and policies need to factor in the varying needs of specific roles” (ibid., p. 29).

Bans

On the other hand, policies that banned certain behaviors or items were seen as controversial and the majority of interviewees spoke of how this is not the route they would usually pursue. One survey taker was concerned that bans would be difficult to enforce and might face resistance and resentment in workplaces similar to bans on synthetic fragrances/chemicals. Based on these comments, blanket bans on behaviors or items could hinder getting more people to be empathetic towards misophonia. The few interviewees who were somewhat in favor of bans would only pursue them in extreme cases (e.g., frequently encountering an intense trigger), if they were in a receptive and supportive environment, and/or if the ban seemed somewhat reasonable (as in Participant G’s case). The comparison to and concern over synthetic fragrance/chemical bans is somewhat valid (De Vader, 2010; Noguchi, 2015; DeFreitas, n.d.). However, in cases such as Participant G’s, official bans, “good faith efforts”, and materials that improve awareness of triggering noises/behavior could borrow language and methods (e.g., explaining reasons, providing alternatives, developing policies using needs assessments rather than top-down strategies) from this movement, which while not universally applauded in offices is also not roundly dismissed (ibid.)⁵⁹.

⁵⁹ However, official bans on triggering behaviors or items, such as chewing gum are distinct from bans on second-hand smoke and synthetic fragrances/chemicals. Chemical substances in these products and poor indoor air quality are highly studied and pose measurable, substantial risks to many (DeVader, 2010). People with often heavily researched, familiar, possibly more widespread, and sometimes visible conditions, such as asthma, migraines, and skin and eye sensitivities, can be affected (ibid.). Moreover, smoking and using products with synthetic fragrances/chemicals can be seen as avoidable behaviors (though sometimes difficult and costly). In contrast, some of the behaviors associated with some of the highly intolerable mouth sound triggers found in this study are less so. Lastly, some of the wariness about

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Other Concerns

Different fields (e.g., audiology, psychiatry, neurology, etc.) are researching management and coping treatments for misophonia, such as cognitive behavioral therapy and tinnitus retraining therapy (CMER, n.d.b; Hashir, 2019; Jasterboff & Jasterboff, 2014; Brout et al., 2018). However, even as evidence-based treatments advance, employers must still be aware that “treatment” is not straightforward (CMER, n.d.b.), and there are other conditions that include sensory triggers. Additionally, participants spoke of experiencing barriers to receiving professional help for management and for a diagnosis that could assist with ADA accommodations or being taken seriously at work due to lack of awareness of misophonia in the medical community. Lastly, one aspect that was not touched upon in-depth was the potential financial cost⁶⁰. Looking at employers in the US specifically, they may need to consider the barriers employees face as “even when” people “have health insurance coverage” receiving mental health care can be difficult due to “high rates of denial by insurers, high out-of-pocket costs,...and problems finding psychiatrists and other mental health providers in health insurance networks” (NAMI, 2017, p. 10, 2; Dangor, 2019). Audiology services are also not always fully covered (ASHA, n.d.)⁶¹. They will still need to consider flexibility in work schedules and ensure staff and supervisors are informed about the requirements of the Equal Employment Opportunity Commission (e.g.,

enacting synthetic fragrance/chemical bans comes from the fact that most companies use cleaning products containing these substances, and switching over can be costly and cumbersome.

⁶⁰ Participants D and F work outside of the US and stated that their therapy was or most likely would be covered. While there are still insurance and parity issues in Canada, the UK, and Germany (Janson, 2018; Baker & Gheera, 2020; Engels et al., 2020), wait times and finding a mental health specialist who knew about or was receptive to learning about misophonia were touched upon.

⁶¹ Universal access to healthcare is also a sustainability challenge that affects the US’s overall performance in SDG3 (Good Health and Well-being) (Lafortune, 2019).

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privacy, discrimination, escalation to HR, required extent of disclosure) (EEOC, 2016; Torres, 2019).

FURTHER RESEARCH

This research started off with the goal of comparing multiple countries and misophonic experiences in countries such as the US and Germany who have not only different relationships to disclosure and mental health awareness, but also work-life balance, office designs and regulations, and insurance through the workplace provisions (Sherbin et al., 2017; Pouwels, 2020; Kleiner et al., 2015). However, because misophonia awareness still appears to be more prevalent in English-speaking countries, particularly the US, and data gathering was only conducted in English, this was not possible, but may still be a fruitful exercise for future research. Lastly, research looking into what has been done to improve work situations for autistic and other neurodiverse individuals could prove useful in terms of design, policy, and advocacy ideas.

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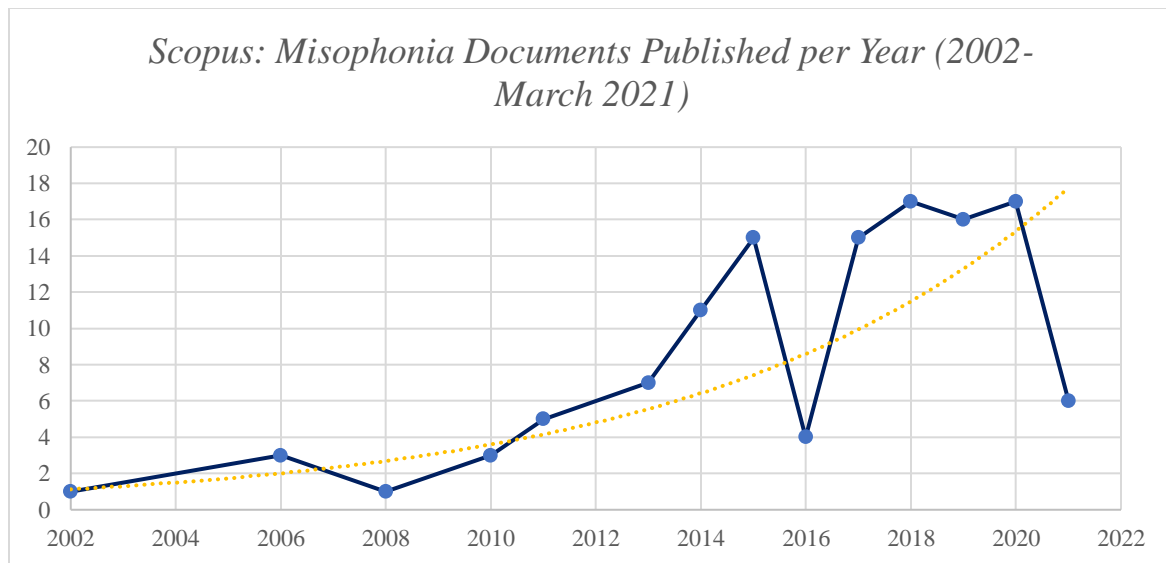
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APPENDIX

A: MISOPHONIA RESEARCH & POP CULTURE

Awareness of and interest in misophonia has been gradually growing in grey and academic literature (see Appendix Figures 1,2,3). In English language media, it has entered the mainstream to some degree with popular outlets (e.g., *The New York Times*, *The Guardian*, *HuffPost*, *Buzzfeed*) covering it and podcasters (e.g., *The Adam Buxton Podcast*⁶², *Judge John Hodgman*, *My Favorite Murder*) occasionally including trigger warnings.

Appendix Figure 1: Scopus: Misophonia Documents Published per Year (2002-March 2021)

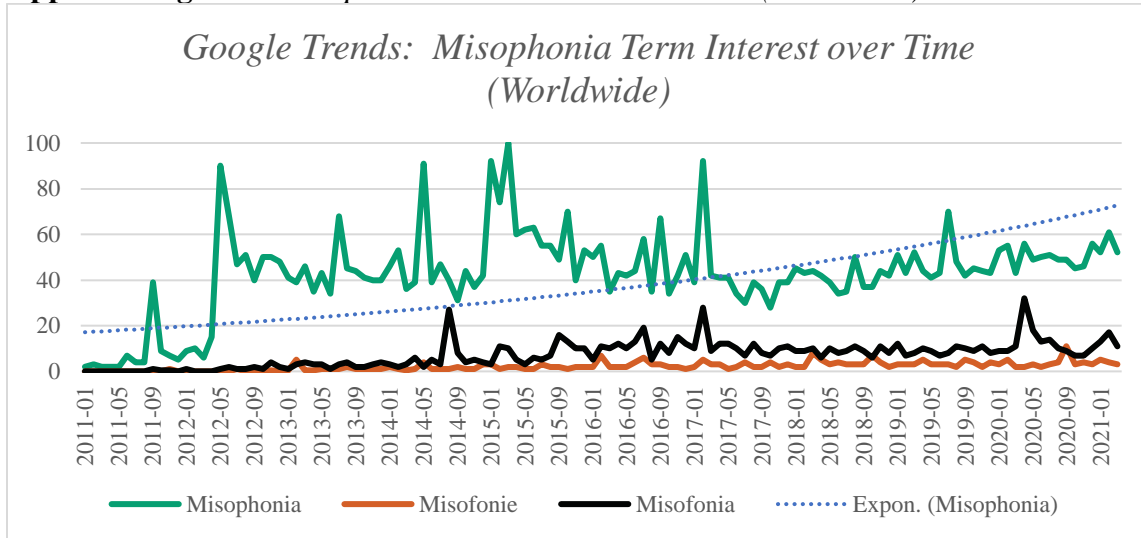


Note. Graph shows how many scholarly documents (articles, reviews, letters, conference publications, etc.) with misophonia in the title, abstract, or as a keyword were published each year from 2002 through March 2021 according to Scopus. In total, 121 documents were found. The majority of these documents were published after 2013 and similar to the regional data from google trends, the topic appears to be more prevalent in the core Anglosphere countries with 80% of the papers published in these countries. Research looking into misophonia has mostly been neurological and psychological studies looking into causes, diagnostic tools and procedures, comorbidities, and treatments and coping mechanisms have been conducted.

⁶² Buxton has made a trigger song for sound sensitivities. See References for details.

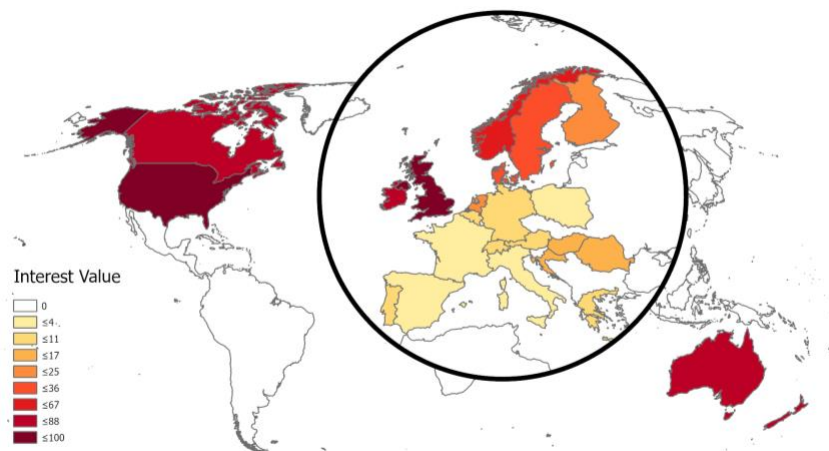
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Appendix Figure 2: Misophonia Term Interest over Time (Worldwide)



Note. Graph displays interest worldwide in three of the different spellings for “Misophonia” from January 2011 through March 2021, according to Google Trends. “Misophonia” is still the most popular spelling overall and in the majority of countries in the study area, except for Spain, Italy, Finland, and Portugal where “Misofonia” is preferred and the Netherlands and Belgium where “Misofonie” is preferred. While there has been interest in “Misophonia” since 2004 and “Misofonia” since 2008, 2011 marks the first time “misofonie” appeared and the first time “Misophonia” began scoring in the double digits. This spike in interest could have been caused by New York Times’s September 5, 2011, article on misophonia and its symptoms (Cohen), which is when some misophonics cite having first heard about the syndrome. Since then, there have been spikes in searches for it over the last decade with the highest popularity (100) being reached in March 2015 and interest in the 80s and above reached in May 2012, May 2014, January 2015, and February 2017.

Appendix Figure 3: Google Trends: Map of Interest



Note. Map displays countries in the study region where “misophonia” has an interest value according to Google Trends. Only the core Anglosphere countries have scores above 80.

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Regarding how misophonia is pictorially represented in non-academic articles, the most commonly used pictures for misophonia could be divided into two categories: misophonia offenders and misophonia sufferers. The former includes images of triggers (e.g., a half-bitten apple, a stick of gum, people eating or drinking, etc.), while the latter is usually someone holding their hands over their ears in visible distress. The subjects of the latter are typically female even when the article is general and not about a specific experience. For example, the first ten pages of a google news search for misophonia articles resulted in finding 28 pictures and drawings of someone plugging their ears while looking distressed. 82% of these images were of individuals who could be gendered as female. Moreover, 77% of the “ear-covering” photos tagged or titled with “misophonia” on Shutterstock are women even though there are 12,367 results for “covering ears” with the “male” filter and 17, 232 with the “female” filter.

B: LIMITATIONS

As seen in the participant map (see Figure 1), one possible limitation of the survey was language. The survey was promoted in German in several German subreddits and in English on a French Facebook group, but not in other languages as active Spanish, Portuguese, etc., groups were not readily found on these platforms or independent online forums. As the survey was only available in English and had a median duration of 22 minutes, these may have been deterrents. Thus, due to the discrepancy between the number of experiences in the US versus the rest of the study region, a comparison between work experiences in different countries could not be drawn and this paper will primarily focus on terms from the US. Also, the research and its promotion were only conducted online, meaning those with limited internet access or who do not participate in misophonia social media groups may have been unintentionally excluded. Obtaining older participants is a common problem in online research (Remillard et al., 2014) and could have partially contributed to the lack of responses from those over 60⁶³.

Regarding misophonia prevalence, the personal genomics and biotechnology company 23andMe found that 20% of a sample of 80,000 customers said they were enraged when they heard others eating and that this was more frequently reported by women (2015). While, in their study of 483 undergraduate students, Wu et al. (2014) found that “nearly 20%” reported “clinically significant misophonia symptoms” (p. 994). However, there have not been broad enough studies to assess its prevalence in the wider population.

⁶³ Additionally, 18–49-year-olds belong to Gen Z, X, and Y (Dimock, 2019), which has been found to have more awareness of and different attitudes toward mental health issues than those belonging to older generations (McMaster, 2020; Lewis, n.d.; Conner et al., 2010).

C: GENDER

This high prevalence of females in misophonia research is not unique to my study (Jager et al., 2020; Siepsiak et al., 2020). However, the reason for this prevalence is unknown (Dr. C. Robbins, personal communication, March 9, 2021). It could be that more women have misophonia and/or have it more severely (ibid). It could also be attributed to larger issues such as men not seeking out help for mental health related problems and underrepresentation of men in mental health research (ibid.; Woodall et al., 2010; Smith et al., 2018). Another possible contributing factor could be misophonia's portrayal in mainstream media. Lastly, it is difficult to say what is a representational number of non-binary people who have misophonia. Gender mismeasurement continues to be a serious issue in research (Cameron & Stinson, 2019) and several misophonia studies either did not give participants the option of a non-binary gender or did not explicitly report on these results (e.g., Jager et al., 2020; Siepsiak et al., 2020).

D: TRIGGER CHARTS

Appendix Figure 4: Survey: Human-Produced Sounds

#	Field	Unsure (e.g., have not experienced)	Does not bother me	Annoying but I can easily distract myself	Very annoying but tolerable (no action taken)	Can tolerate for a short period only (I need to leave the room soon)	Cannot tolerate at all (quick reaction)	Total
1	Person eating with closed mouth	0.00% 0	22.17% 45	29.56% 60	19.70% 40	24.63% 50	3.94% 8	203
2	Person eating with open mouth	0.49% 1	2.96% 6	3.45% 7	11.82% 24	40.89% 83	40.39% 82	203
3	Person slurping food	0.00% 0	2.96% 6	4.93% 10	9.36% 19	36.45% 74	46.31% 94	203
4	Person sipping a drink	0.00% 0	11.33% 23	17.73% 36	28.08% 57	30.54% 62	12.32% 25	203
5	Person chewing gum with closed mouth	0.99% 2	25.62% 52	20.20% 41	21.18% 43	24.14% 49	7.88% 16	203
6	Person chewing gum with open mouth	0.99% 2	1.97% 4	5.91% 12	9.85% 20	27.59% 56	53.69% 109	203
7	Person popping gum	3.45% 7	8.87% 18	8.87% 18	14.29% 29	19.70% 40	44.83% 91	203
8	Person sucking on candy	4.93% 10	8.37% 17	9.85% 20	13.79% 28	29.56% 60	33.50% 68	203
9	Person clearing their throat	0.00% 0	21.67% 44	16.26% 33	28.08% 57	23.65% 48	10.34% 21	203
10	Person coughing	0.00% 0	25.62% 52	20.69% 42	30.54% 62	14.78% 30	8.37% 17	203
11	Person breathing loudly	2.96% 6	9.85% 20	19.21% 39	29.06% 59	30.05% 61	8.87% 18	203
12	Person sniffing	0.00% 0	10.84% 22	16.75% 34	27.09% 55	26.11% 53	19.21% 39	203
13	Person tapping their foot/feet	1.48% 3	17.24% 35	23.15% 47	21.18% 43	25.62% 52	11.33% 23	203
14	Person tapping their fingers	3.45% 7	17.73% 36	23.65% 48	18.23% 37	27.59% 56	9.36% 19	203
15	Person drumming their nails	5.91% 12	17.24% 35	20.69% 42	18.72% 38	23.15% 47	14.29% 29	203

Note. Results for trigger assessment portion of the survey for “Category 1: Human-Produced Sounds”. Rating categorizations based on Vitoratou et al. (2018).

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Appendix Figure 5: Survey: Human-Produced Object Sounds

#	Field	I don't know (e.g., have not encountered)	Does not bother me	Annoying but I can easily distract myself	Very annoying but tolerable (no action taken)	Can tolerate for a short period only (I need to leave the room soon)	Cannot tolerate at all (quick reaction)	Total
1	Person tapping a pen	3.45% 7	17.73% 36	27.59% 56	21.18% 43	21.18% 43	8.87% 18	203
2	Person clicking a pen	2.96% 6	17.24% 35	24.14% 49	21.18% 43	18.72% 38	15.76% 32	203
3	Person typing on the keyboard	0.00% 0	43.35% 88	18.72% 38	18.23% 37	13.30% 27	6.40% 13	203
4	Person typing on the keyboard with long fingernails	11.33% 23	25.12% 51	18.23% 37	16.75% 34	14.78% 30	13.79% 28	203
5	Person using a type writer	42.86% 87	28.08% 57	11.33% 23	8.37% 17	5.91% 12	3.45% 7	203
6	Person clicking their computer mouse	0.49% 1	48.28% 98	21.67% 44	17.73% 36	9.85% 20	1.97% 4	203
7	Person texting/typing on their phone	2.46% 5	56.16% 114	20.20% 41	12.32% 25	7.39% 15	1.48% 3	203
8	Person rustling newspaper	7.39% 15	49.75% 101	24.63% 50	11.82% 24	5.91% 12	0.49% 1	203

Note. Results for trigger assessment portion of the survey for “Category 2: Human-Produced Object Sounds”. Rating categorizations based on Vitoratou et al. (2018).

Appendix Figure 6: Survey: Machine or Technology-Produced Sounds

#	Field	I don't know (e.g., have not encountered)	Does not bother me	Annoying but I can distract myself	Very annoying but tolerable (no action taken)	Can tolerate for a short period only (e.g., I need to leave the room soon)	Cannot tolerate at all (e.g., leave the room immediately, quick reaction that can include verbal aggression)	Total
1	Analogue ticking clock/watch with only minute and hour hands	6.40% 13	51.23% 104	18.23% 37	12.32% 25	9.36% 19	2.46% 5	203
2	Analogue ticking clock/watch with second, minute, and hour hands	7.39% 15	44.83% 91	20.20% 41	12.81% 26	11.33% 23	3.45% 7	203
3	Fax machine	20.69% 42	60.59% 123	11.33% 23	4.93% 10	2.46% 5	0.00% 0	203
4	Printer	2.46% 5	74.38% 151	14.78% 30	5.42% 11	2.96% 6	0.00% 0	203
5	Air conditioner ticking	9.85% 20	55.17% 112	18.23% 37	12.81% 26	1.97% 4	1.97% 4	203
6	Ceiling fan ticking	10.34% 21	47.29% 96	20.69% 42	10.34% 21	8.87% 18	2.46% 5	203

Note. Results for trigger assessment portion of the survey for “Category 3: Machine- or Technology-Produced Sounds”. Rating categorizations based on Vitoratou et al. (2018).

E: RESULT DETAILS

Benefits & Positives

Participant G contrasted his misophonia with his mild ADHD. The latter sometimes helps him focus on tasks, but misophonia does not have the same direct benefit. He did say that from a more “holistic” standpoint, misophonia helped in his personal growth because it led him to have different experiences and conversations and overcome obstacles that he probably would have not had without misophonia.

Of the positives listed, the most prominent was that their sensitive hearing could sometimes help them be more aware of their general surroundings and may help them hear or play music in a different way. Lastly, though three individuals who work in or are involved in misophonia/audiology related projects were interviewed, only Participant F stated that misophonia possibly helped her find a trajectory in her field of study and gave her unique insight to complete her job. No one stated that the experience of having misophonia helped them better empathize with other people who, for example, have a different neurological condition or sensory processing disorder.

Nomenclature

Interviewees were also mostly positive about the term “neurodiversity” and including misophonia in its list of differences after seeing the following definition: “a concept where neurological differences are to be recognized and respected as any other human variation. These differences can include those labeled with Dyspraxia, Dyslexia, Attention Deficit Hyperactivity Disorder, Dyscalculia, Autistic Spectrum, Tourette

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Syndrome, and others” (The National Symposium on Neurodiversity at Syracuse University, n.d.).⁶⁴

Coping Tools⁶⁵

Earplugs (usually foam) were mentioned by interviewees and survey-takers as another coping tool, but were reported as being less effective, more uncomfortable⁶⁶, and more socially unacceptable. Participants F and J also mentioned using ear defenders, but J also worried about their social acceptability. Participant G mentioned trying “reverse hearing aids” (hearing aids that play music), but preferred Bluetooth headphones due to style and cost concerns.

Meditation

Participant E began practicing meditation for her overall anxiety and has found it very helpful in recentering her when being triggered. Participant G has found grounding exercises good for his “post-trigger calm down” and also did not start practicing meditation or breathing exercises because of misophonia. He stated that these techniques were not the perfect coping mechanism for him and specified that he used them post-trigger. Participant F had tried using grounding methods as well, but found the practice of focusing on current

⁶⁴ Interviewees were only asked if they agreed with the definition and felt comfortable with describing misophonia using the term. They were not asked for their opinions on the neurodiversity movement.

⁶⁵ The two most used tools mentioned could be present environmental difficulties. Wireless earbuds allow users to move about more freely and are automatically suited to many newer phone models, but many (including high-end ones) are equipped with non-replaceable batteries that reduce their lifespans, particularly when compared to that of high-end wired headphones (Dragan, 2021). Earplugs also present an environmental dilemma as even with recommended hygienic practices, disposable earplugs made of foam, wax, or silicon have a limited lifespan lasting from days to months, especially when compared against custom-molded earplugs which while still made of vinyl, acrylic, or silicone can last for years (Sound Source, 2018). These are other issues for workplaces to consider.

⁶⁶ Sameli et al. (2018) bring up the importance of making sure hearing protection devices (HPD) are properly sized for all employees: “The attention to the use of HPDs should be personalized, taking into account the needs of each individual. Therefore, the influencing factors to be considered include not only attenuation but also well-being, because both the PAR and the comfort sensation vary greatly for each individual based on the characteristics of each HPD and the anatomy of the user” (p. 18).

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sensory stimuli (particularly in regards to auditory) unhelpful. Participant B also practiced saying mantras to herself that reaffirmed that she is in control of the situation. Other interviewees brought up practices that could also fit in this category such as clearing their minds and repeating phrases to themselves, but did not categorize them as meditative or therapeutic⁶⁷.

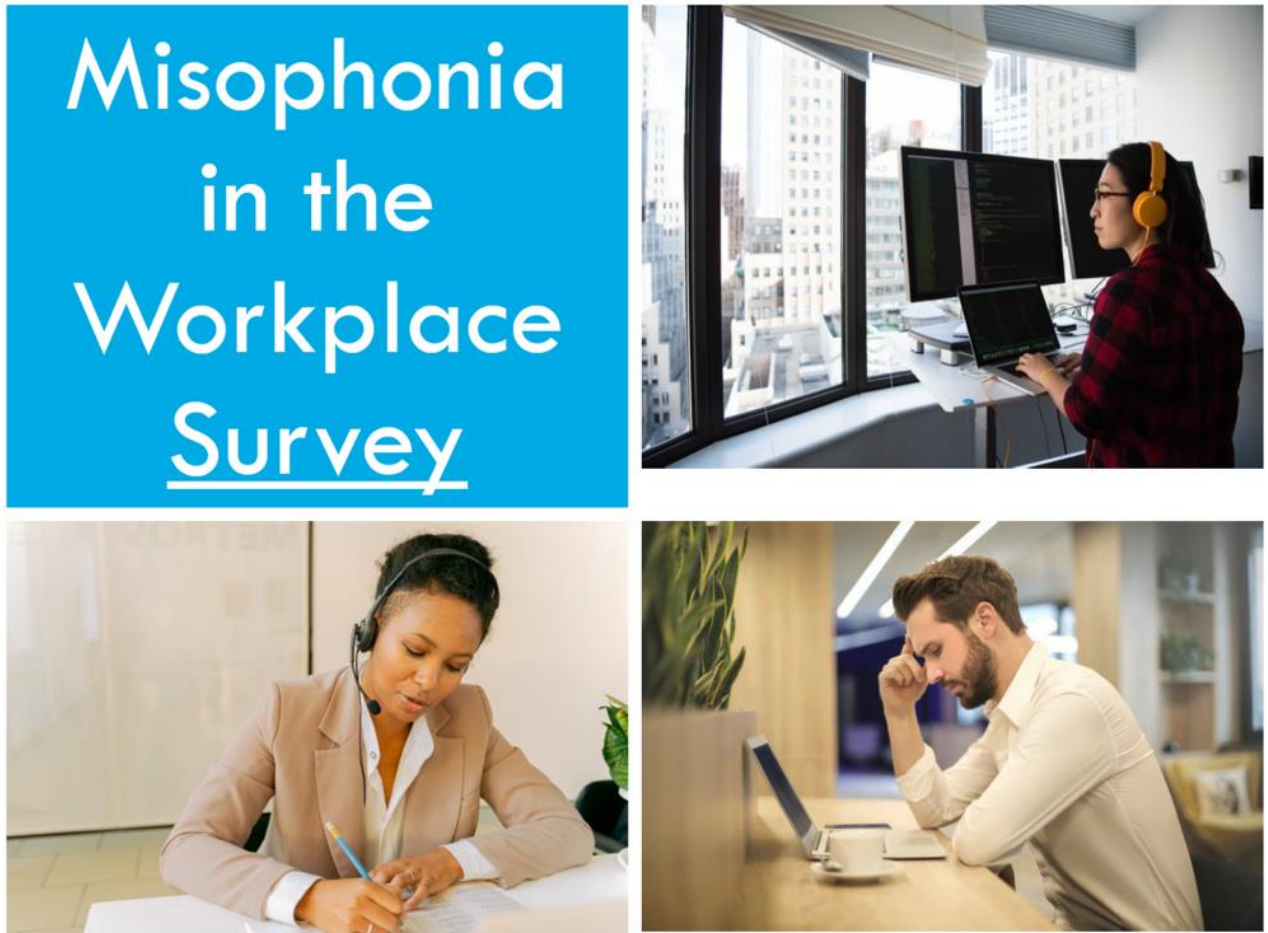
One factor of meditation and therapeutic practices that was brought up by a few participants was some degree of guilt around not practicing this enough or not being skilled enough at this for it to prevent them from being triggered, internally reacting to the trigger, or to calm them down.

⁶⁷ In the survey, participants could also select yoga as an option for what they did away from their desk to cope. Only seven survey-takers selected this answer, including E. However, she explained in the interview that she had never done yoga at work meaning that the question's parameters may have been unclear to some.

F: SURVEY PROMOTION

When creating promotional material, I attempted to make it inclusive with photos of BIPOC women and a photo of a man, but was unable to find free stock images of gender-neutral/non-binary people that were appropriate (see Appendix Figure 7). Advice by Hendon (2020) was also followed in regards to photo selection by not reducing the condition down to a cliché (e.g., covering ears with hands, chewing images), not using excessive photos of triggers or triggering activities (e.g., gum popping, someone typing with long nails), and not showing people in utter distress. Images that showed people working in an office with and without headphones, happy and a bit stressed were chosen to not only reflect the realities of misophonics, but also “instill a sense of hope” (Hendon, 2020). However, one comment in the survey results read, “Most people I know (even the ones who have misophonia) think misophonia is about chewing sounds. It’s not clear from the poster”. Thus, some people with misophonia may have missed the survey because these shorthand images were omitted.

Appendix Figure 7: *Misophonia in the Workplace Survey Promotional Images*



Note. These images were used to promote the survey on some websites (Morillo, 2018; Shkraba, 2020; Piacquadio, 2018a).

G: INTERVIEW QUESTIONS

Basic Interview Questions

If the interviewee provided their unique identifier from the survey, the questions were slightly adapted. There was a demographics check at the beginning.

1. What is your relationship with your misophonia?
 - a. How does it affect your life, your decisions, how you see yourself? When did it start? What is the severity?
2. What has been your cumulative experience of navigating white-collar offices with misophonia?
 - a. Have you ever been promoted or had a managerial or higher-up position? Did this affect the way you navigated the workplace?
 - b. For those who have worked in multiple countries: Did you have different experiences with navigating these spaces in _____ and _____?
 - c. Do you think misophonia affects your productivity at work?
 - d. Do you think misophonia affects your relationships with colleagues?
 - i. Do you have experience of talking to them about misophonia or asking them to adjust their behavior?
3. How do you cope with triggers in the workplace? Do you use any specific technical equipment or practice any form of meditation or a therapy technique?
 - a. How has this helped you?
 - b. Has anyone ever commented on this at work? Has it ever resulted in changes at the workplace (negative or positive)?
 - i. Do you feel this technology or action has any negative repercussions for yourself? For the workplace?
 - c. If they have a certain meditation/therapy practice: How did you cultivate this practice? Do you have time to practice these methods?
4. In general, which kind of office spaces have you worked in (please look at the photos)? Which one was the most beneficial to you in terms of misophonia and which one was the least? If you do not have experience, which one do you suspect would be the most and least beneficial? What is your experience with work(ing) from home (WFH)?
 - a. What would your ideal white-collar workplace look like? You can be as vague or as specific as you want.
5. In general, how do you think white-collar workplace policies can be improved to make misophonics' experience and productivity better?
 - a. For example, would you make policies more flexible, ban certain behaviors or items, etc.?
 - b. Have you had personal experiences with this?
 - c. What would your ideal flexible policy look like? What would a ban policy look like?
 - i. Could you foresee encountering any negatives for yourself as a person with misophonia if these policies were implemented? What about for other colleagues?
6. What role do you think HR could have in helping individuals with misophonia?

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7. Do you believe workplaces are responsible for providing tools for people with misophonia that help them better manage and cope with their misophonia at work? Why?
8. Have you ever sought therapy for coping tools or treatment of misophonia? Did your workplace help you pay for this or give you the needed time off?
9. Please look at the following definition of “syndrome”.
 - a. Would you be comfortable calling misophonia a syndrome if you were trying to explain it at work (to work colleague, manager, HR person)?
10. What would you feel about calling misophonia a disability if you were trying to explain it work a work colleague, manager, HR person?
 - a. Can you explain why you answered that way and the possible benefits and negatives of calling misophonia a disability.
 - b. Please look at the following definition of disabled. Does this change your opinion?
11. Please look at the following definition of “neurodiversity”. Would you use this term to talk about misophonia?
 - a. Have you heard of this before? How does it make you feel?
12. Do you have any preferred ways of describing what misophonia is?
13. Do you think your gender identity informs how you experience, talk about, or cope with your misophonia at the workplace?
14. Are there any benefits of having misophonia? Or does it have any superpowers? Do you take anything positive away from having misophonia?
15. Are there any points that you think were not addressed in these questions that you would like to comment on?
16. Are you comfortable with being referred to as “a person with misophonia” and a “misophonic”? If not, which one would you prefer or do you have an alternative?
17. If you would like, you may choose the pseudonym that you would like me to use in the research materials. You may give me three options if you wish.

H: SUPPLEMENTAL MATERIALS LIST

A. Survey Questions [PDF]

B. Survey Results [PDF]

For privacy reasons, the transcripts of the interviews have not been included. If you have any questions, please message the researcher at ohnienaber@gmail.com.

I: IRB INFORMATION

This study was approved of by the Institutional Review Board (IRB) via Arizona State University in February 2021. Below are the texts from the consent forms, which were digitally signed by participants.

Consent Form for Main Survey

I am a graduate student under the direction of Professor Cloutier in the School of Sustainability at Arizona State University and under the direction of Professor Henrik von Wehrden at Leuphana University. I am conducting a research study to find out how people with misophonia navigate whitecollar workspaces and what futures and solutions they envision.

I am inviting your participation, which will involve taking a 30–45-minute survey via Qualtrics. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. To participate, you must be at least 18 years old. By taking part in this study, you will help the researcher get more in-depth answers of what it is like to live with misophonia as a working adult and what changes you would like to see in the workplace. Your participation will help broaden the available knowledge about the misophonic experience and perspectives. There are no foreseeable risks or discomforts to your participation. However, this survey is not a substitute for medical advice. Please consult a medical professional with any questions you have regarding misophonia.

You will not be required to give any identifying information and your personal information will be automatically scrubbed from the results (please see this Qualtrics page on “Anonymizing Responses” for further information). This study may be used in reports, presentations, or publications. If you withdraw from this study, Qualtrics still records your survey results, but these will not be included in the analysis of the results.

At the end of the survey, you will be asked if you would like to be interviewed about misophonia in the workplace and have the option of creating a unique identifying code. Neither of these steps are required for survey completion.

If you have any questions concerning the research study, please contact me, Olivia Nienaber, at oliviamisophonia@gmail.com. My ASU supervisor Scott Cloutier can also be contacted at scott.cloutier@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

By selecting “Yes” below you are agreeing to be part of the study.

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Consent Form for Survey Request to Contact Potential Interviewees

To gain further insight into the misophonic experience of the white-collar workplace, I am conducting a few brief virtual interviews (30-45 minutes). If you are interested in participating, you can select “Yes” below and then volunteer your email address.

I am the only one who will see your contact details and they will not be shared with anyone else. Additionally, I will not be able to connect your email address to your main survey results and Qualtrics will anonymize your responses here and in the main survey. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The data given here will be deleted in January 2022 or your personal data can be deleted anytime before that upon written request.

If you have any questions concerning the research study, please contact me, Olivia Nienaber, at oliviamisophonia@gmail.com. My ASU supervisor Scott Cloutier can also be contacted at scott.cloutier@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (+1)(480) 965-6788. Please let me know if you wish to be part of the study.

By selecting “Yes” and providing me with your preferred email address below, you are agreeing to be contacted by me about being interviewed.

By selecting “No” and continuing, you are stating you are not interested in being interviewed and finishing both portions of the survey.

Consent Form for Interviews

I am a graduate student under the direction of Professor Cloutier in the School of Sustainability at Arizona State University and under the direction of Professor Henrik von Wehrden at Leuphana University. I am conducting a research study to find out how people with misophonia navigate white-collar workspaces and what futures and solutions they envision. I am inviting your participation, which will involve a 30-45 minute one-to-one interview conducted over Zoom in English. You have the right not to answer any question, and to stop participation at any time. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. To participate, you must be 18 years or older and have taken the Misophonia in the Workplace survey.

By taking part in this study, you will help the researcher get more in-depth answers of what it is like to live with misophonia as a working adult and what changes you would like to see in the workplace. Your participation will help broaden the available knowledge about the misophonic experience and perspectives.

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There are no foreseeable risks or discomforts to your participation. Your responses will be confidential. I will save any correspondence, notes, transcripts, recordings, etc. on a password protected device. The recording will be saved to my device and after I have transcribed it, will be deleted. Files associated with you will receive a unique code that only the researcher knows. The code list that connects your name, email address, pseudonym, and possibly unique identifier code from the survey will be saved in a separate location with a different password and only seen by me. The results of this study may be used in reports, presentations, or publications but your name will not be used. All correspondence, the code list, and your signed consent form will be deleted in January 2022.

I would like to video record this interview. You can choose to keep your video off, however, and only your audio will be recorded. The recording and transcript can only be accessed by the researcher. Once recording has started, the researcher will not use your name to ensure privacy. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know. You can also request at any point that the recording and any other data be deleted or omitted from the study by contacting me at the email address below.

If you have any questions concerning the research study, please contact me, Olivia Nienaber, at oliviamisophonia@gmail.com. My ASU supervisor Scott Cloutier can also be contacted at scott.cloutier@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

If you wish to be part of this study, please fill-out the rest of the form, including your consent agreement, signature, the date, and your email address. Optionally, you can include your unique identifier.

By signing below you are agreeing to be part of the study.

J: DECLARATION OF ORIGINALITY – ERKLÄRUNG ZUR MASTERARBEIT

Declaration of Originality

I confirm that the submitted thesis is original work and was written by me without further assistance. Appropriate credit has been given where reference has been made to the work of others.

The thesis was not examined before, nor has it been published. The submitted electronic version of the thesis matches the printed version.

Erklärung zur Masterarbeit

Hiermit versichere ich, dass ich die von mir vorgelegte Masterarbeit

- selbständig verfasst habe,
- ich keine anderen als die in der Masterarbeit angegebenen Quellen und Hilfsmittel benutzt habe,
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June 29, 2021

Nuremberg, GE

Ort, Datum
Place, date

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Signature