Descriptive Statistics of Misophonia

Citation: Krauthamer, Judith T. (April 2014). Descriptive Statistics of Misophonia. Retrieved online from www.sound-rage.com

INTRODUCTION

What is misophonia? As defined in Sound-Rage. A primer of the psychology and neurobiology of a little known anger disorder, "Misophonia comprises a unique set of symptoms, most likely attributable to neurological causes unrelated to hearing-system dysfunction. It can be described as an immediate and extreme emotional response of anger accompanied by an automatic physiological flight response and a fundamental discomfort to identifiable auditory, visual, and olfactory stimuli. The disorder disrupts daily living and can have a significant impact on all social interactions." (From Krauthamer, J. (2013). Chalcedony Press 210pg.)

The disorder is not in the DSM-V, underscoring that it is not known by the psychiatric and medical communities. Only recently has a first article been published on effective therapy treatment for misophonia. According to the authors, the article was published in a British journal (Bernstein, R., Angell, K., and Dehle, C. (September 2013). *A brief course of cognitive behavioural therapy for the treatment of misophonia: a case example*. The Cognitive Behaviour Therapist, vol. 6, e10doi:10.1017/S1754470X13000172) because American journals are skeptical of publishing on a disorder that is not in the DSM (retrieved online from http://www.psychologytoday.com/blog/sounds-awful/201404/our-future-cognitive-behavioral-therapy).

There is a fundamental lack of research from academic and mental health communities despite an overwhelming need for effective treatments. This disparity has spurred grass root activity for information. Looking to build community, gain recognition, and begin gathering information, people from throughout the world have joined online groups to discuss, commiserate, and gather data.

An Online Survey

On July 8th, 2013, a group of people who suffer from misophonia, self-identified as a "group of amateur researchers," compiled a survey of just over 120 questions with the hope of generating a data base of information. The survey was publicized to misophonia communities on at least three social media group sites, yahoo groups (Selective Sound Sensitivity Yahoo group), reddit (r/misophonia on reddit), and tumblr (misophoniasupport.tumblr.com). As an online survey with no log-in or opt-in requirements, it was an open survey available to the general public. Thus, for the following descriptive statistics, it is assumed that the people who answered the survey (referred to in this article as the "sample population") are misophonia sufferers.

The survey, administered on the Lime Survey platform, was online for one month and addressed demographic information, such as age, sex, education; information questions about the disorder, such as at what age did you first notice triggers; and a host of assorted medical and lifestyle questions. Not all survey questions are addressed in this analysis; some information was

deemed of no use, such as a subject's height, while others were deemed not of interest, such as whether or not the subject has ever fired a gun.

The raw data is in the public domain and is available as a zip file for free download at www.misophoniaresearch.com. It is in an unaltered format in UTF-8 encoded CSV fields that are delimited by comma. Text is delimited by double quotes. The files can be readily opened and saved as MS excel spreadsheets. The data is presented in two formats: full and partial responses combined (918 responses) and full responses only (581 responses). However, for purposes of this study, and as will be noted elsewhere, a number of the 581 responses were deleted because of missing relevant fields.

Descriptive Statistics: What this Data Can and Cannot Tell Us

There are two types of statistics: descriptive and inferential. 'Descriptive statistics' is the term given to the analysis of data that helps describe or summarize data in a meaningful way. Using descriptive statistics, basic patterns in the sample population can emerge, enabling us to present the data so that we may make simple interpretations. Basic questions, such as what is the educational level of the sample group, can readily be answered. Descriptive statistics, however, do not allow us to test hypotheses or make conclusions beyond the data we have analyzed. We cannot generalize to the population at large.

In contrast, 'inferential statistics' are used to reach conclusions that extend beyond the immediate sample data. These statistics infer from the sample data so that generalizations or statements can be made about the overall population from which the sample came. Inferential statistics depend on having samples that are random and that represent the population under study.

The following analysis is descriptive; additionally, there are no statistical significance measurements. The reason for this is due inherent limitations of the survey.

The online misophonia survey was administered to an unknown population (although we assume that the respondents have misophonia). The survey also used one vehicle only: the internet. A true random survey would include a number of vehicles: telephone, mail, face-to-face, and online. If we were to make generalizations about all people with misophonia from this sample population, we would have to make a number of assumptions, some of which include 1) All people with misophonia use the internet; 2) All people with misophonia, regardless of age, use the internet with the same frequency 3) People who utilize online social media do not differ from those who do not use social media 4) People with misophonia who do not speak/read English do not differ in any way from people English speaking people with misophonia and 5) Open online surveys can discriminate between people with misophonia and people who do not have misophonia.

SAMPLE DEMOGRAPHICS

The database of 581 respondents was adjusted when analyzing demographic information. The total (N=), or sample size number, for an individual demographic characteristic (such as age, gender etc.) might differ from another characteristic, depending on incomplete or inconsistent responses. The total N is indicated for each demographic.

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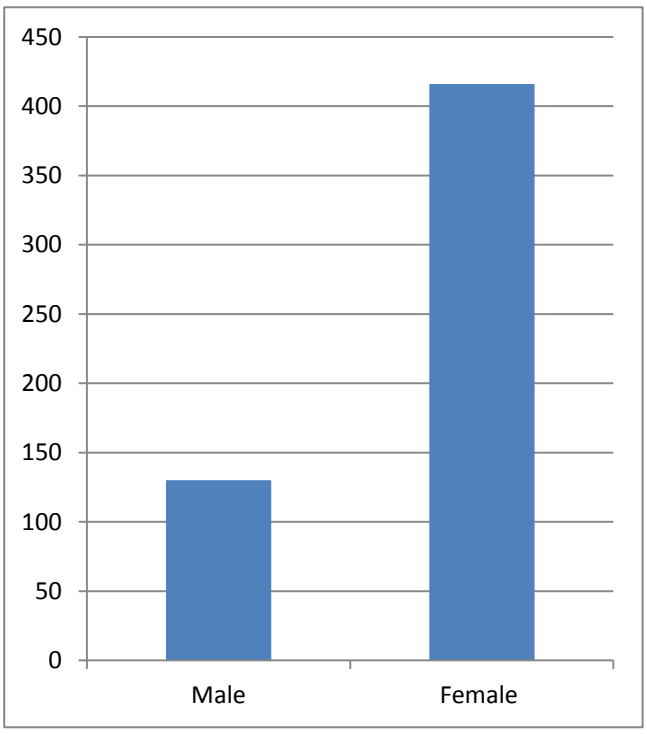
For all characteristics, the survey had the following corrections:

- All subjects that did not specify age were deleted
- Subjects with ages specified as age one and age three were deleted
- Thirteen subjects with N/A as gender were deleted
- Two subjects with age of onset at 40 years of age were deleted
- One subject with age of onset listed as 1997 was deleted
- One subject who listed their current age as 14 yet also listed themselves as divorced and with a masters degree was deleted

Gender

There was over three times as many females as male respondents in the sample (N=546). It would be difficult to extrapolate this gender bias to the population of misophonia sufferers because "women are more likely than men to search online for health information, search for more health topics, seek online support for medical issues, and search on someone else's behalf." (Fox, Susannah. 2007. *How gender influences health searches.* Pew Internet Research Project).

In addition, women are also more likely than men to seek out, in both private and public forums, mental health support. In September 2013, 78% of women were users of social networking sites, compared with 69% of men (Pew Internet Research Project).



Race:

The data (N=546) was aggregated such that individual records like "Korean" and "Chinese" were denoted as "Asian." Unequivocally, the sample represents a white (Caucasian) population. Again, it is impossible to extrapolate this to the population of misophonia sufferers.

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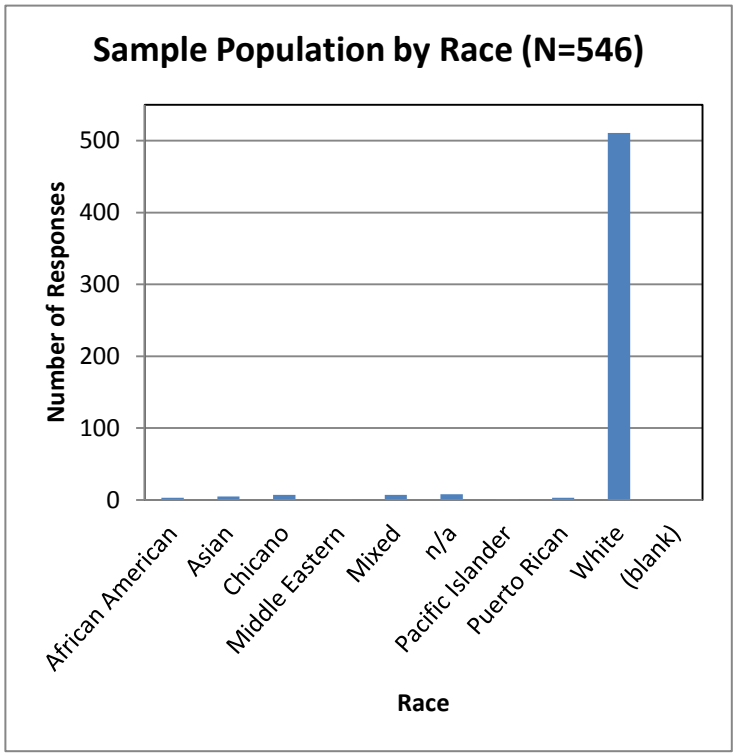
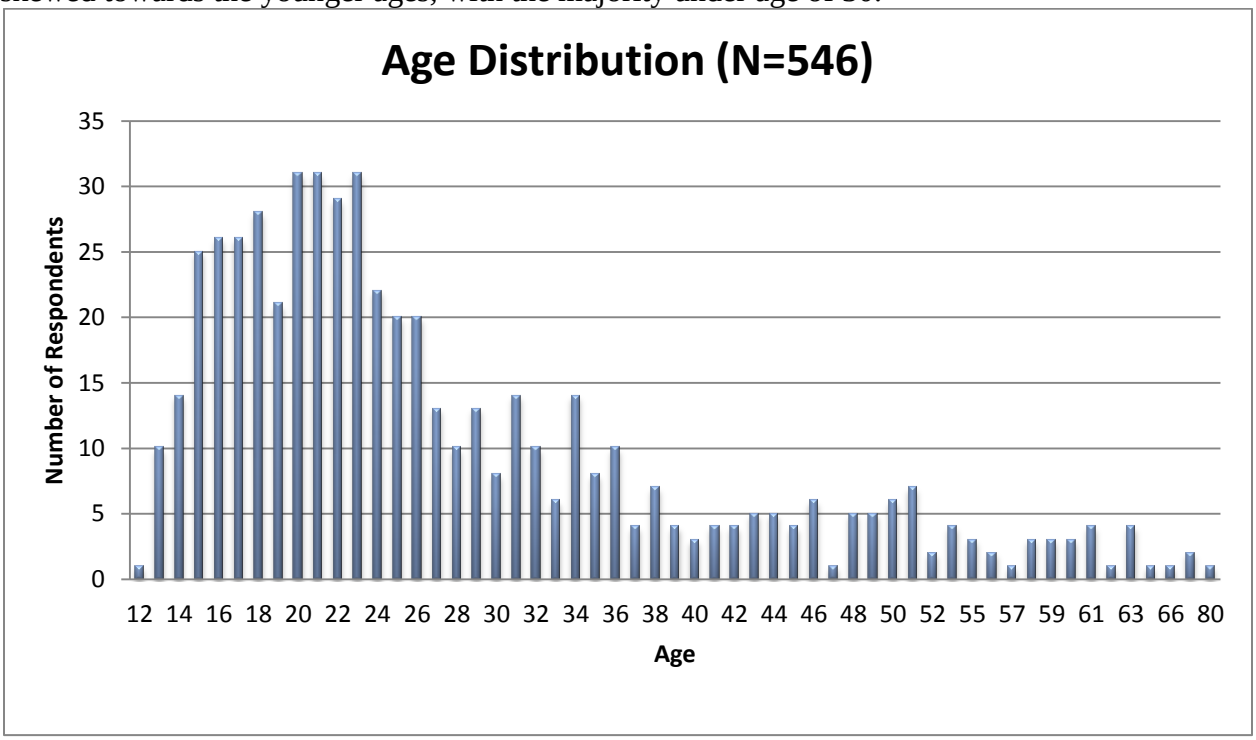


Age:

The youngest survey participant was 12; the oldest was 80. The age distribution of respondents is skewed towards the younger ages, with the majority under age of 30.



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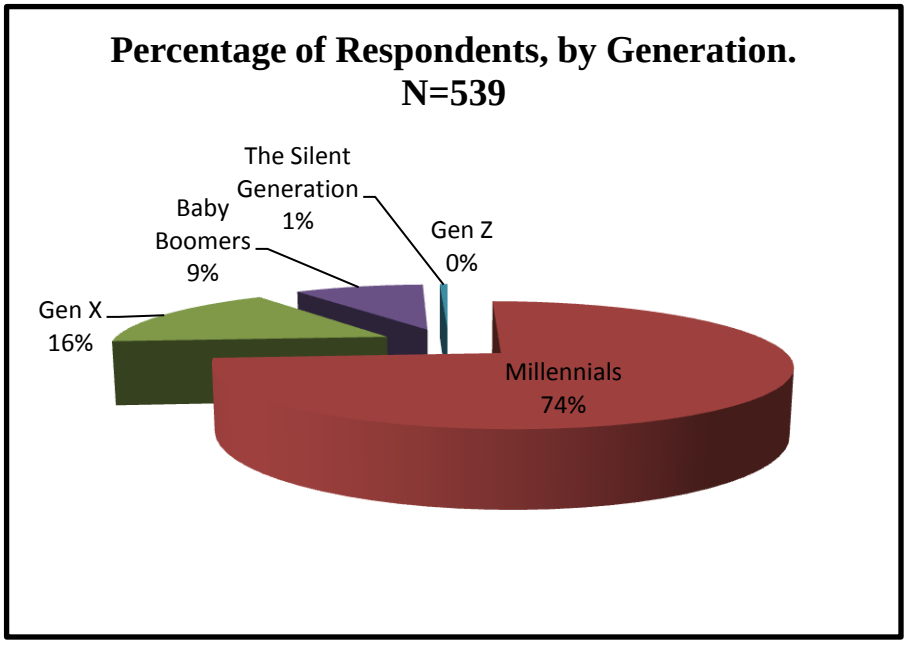
For purposes of the analysis, ages were assigned to generally accepted generation-groups.

Generation Name	Age Range (as of 2013)
The Silent Generation	68-86
Baby Boomers	49-67
Gen X	33-48
Millennials (sometimes called Gen Y)	13-32
Gen Z	Under 12

The majority of respondents are members of the millennial generation. Millennials are considered an always mobile, always connected group. They have the highest penetration of internet usage, with 93% of them using the internet. The sample population's age distribution is more a reflection of social media use than the age structure of misophonia sufferers. Eight-four percent of Millennials are social media users, twice as many as Baby Boomers (retrieved online from http://millennialmarketing.com/2013/04/how-do-millennials-behave-on-social-mobile-and-the-web/).

Millennials actively seek information and community online, and this presents an interesting shift in the developing awareness of the disorder. Many [older] people with misophonia assert that they spent the majority of the lifetime unaware that they had a syndrome; they spent most of their life feeling "alone" with the disorder; and they believed their behaviors and reactions were quirks or personal issues, not a universal condition. The use of social media by the younger generation is leading to a generation who can and most likely will discover their syndrome within a relatively short period of time of internet research. Learning at a relatively young age that they are not alone may have a significant impact on their self-evaluation and self-worth because they can become members of a community in support, remedies, and therapies.



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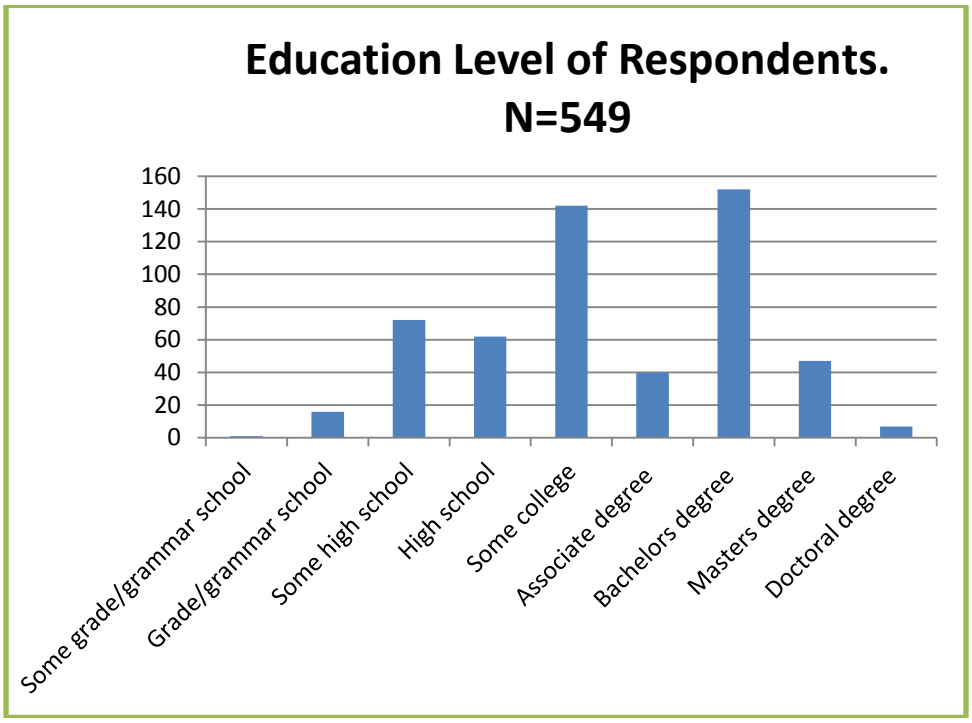
Education

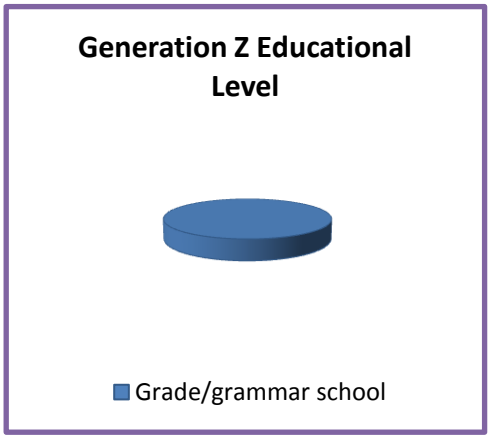
Overall, the sample ranges in education from some grade school through doctoral degree (PhD).

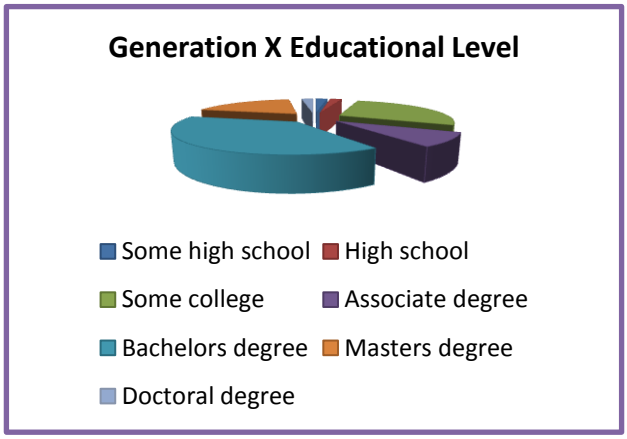


This range, however, is a reflection of the age distribution being skewed to a younger population. Since the majority of respondents are under thirty, it stands to reason that graduate degrees might be under-represented. Therefore it does not offer a view of the education of the older, adult population.

Education by Generation

It is easier to describe the educational level of the sample population by looking at the educational ranges within the defined generations. Given the number of college and post-baccalaureate degrees, one can speculate that people with misophonia can be successful in a classroom environment, despite triggers.





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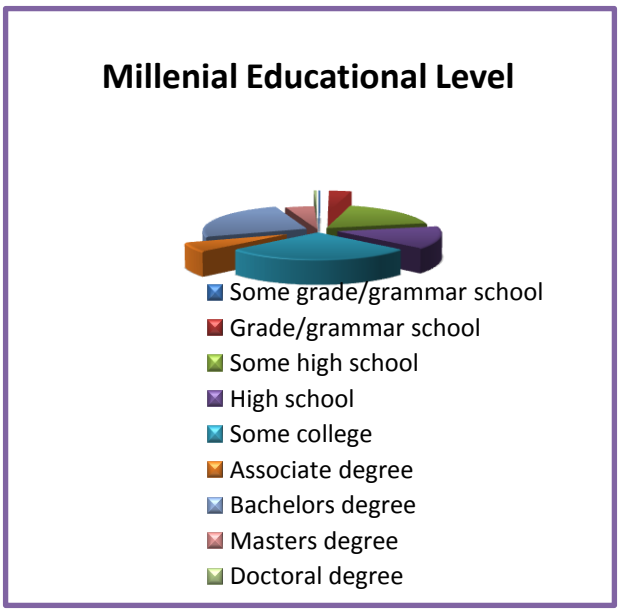

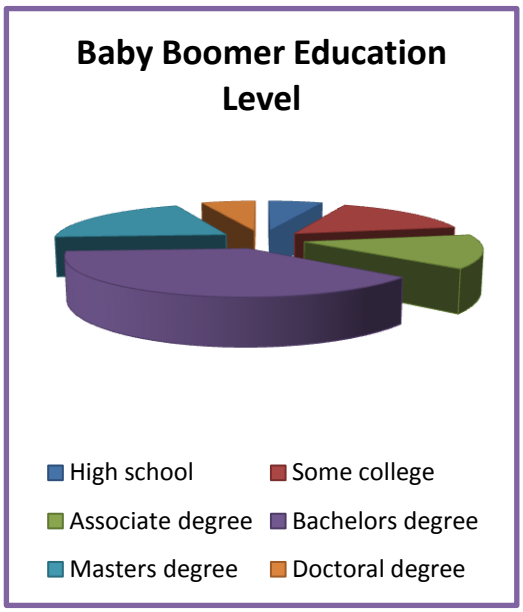

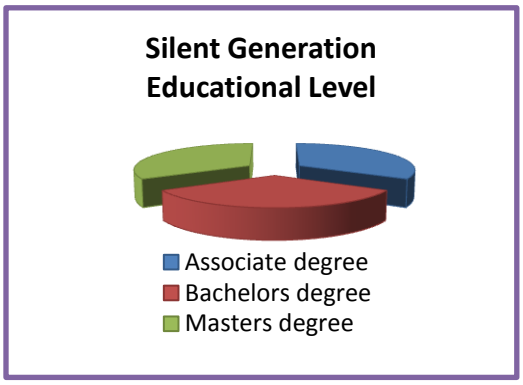

MISOPHONIA CHARACTERISTICS

Age of Onset

For this characteristic, additional profiles were deleted:

- All subjects that did not have age of onset were deleted
- Youngest age of onset (2) and oldest age of onset (35) were deleted
- After an initial plot of age on onset, an outlier (age 80) was also deleted.

The average age of onset was compared by two methods: 1) A mean, median and mode were taken across all ages and 2) A mean for each generation. This was done to ascertain if a particular age group differed in age of onset. For example, it may be that after a certain age, recollection of onset becomes diffuse.

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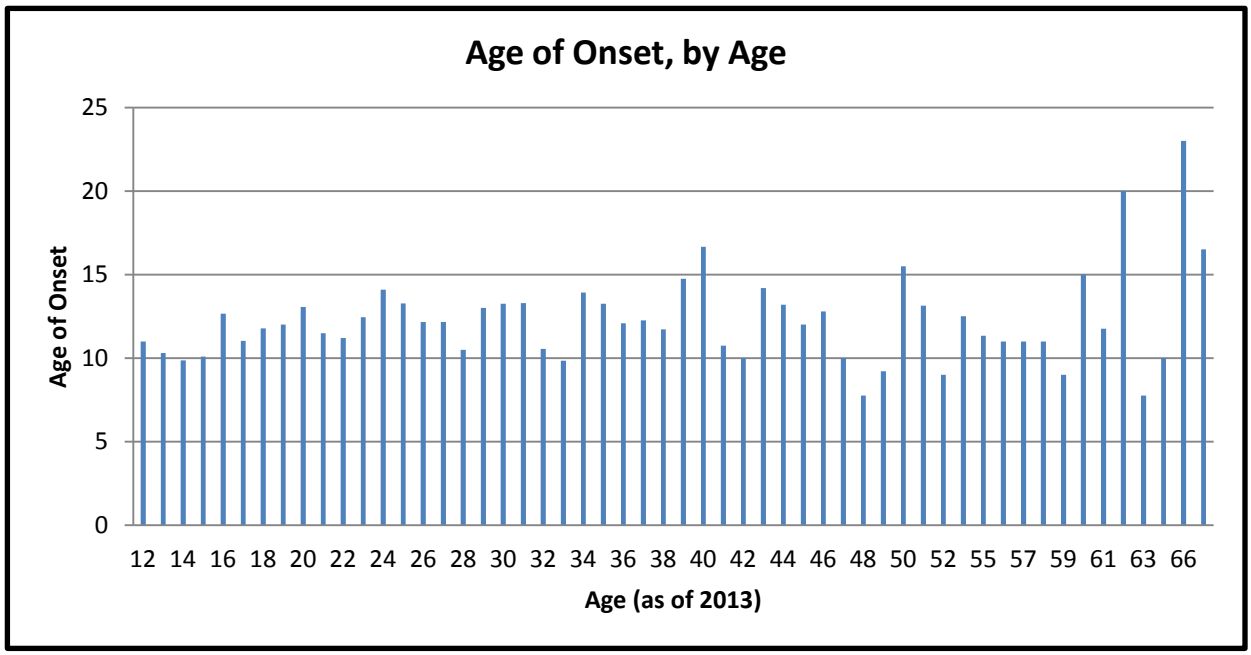
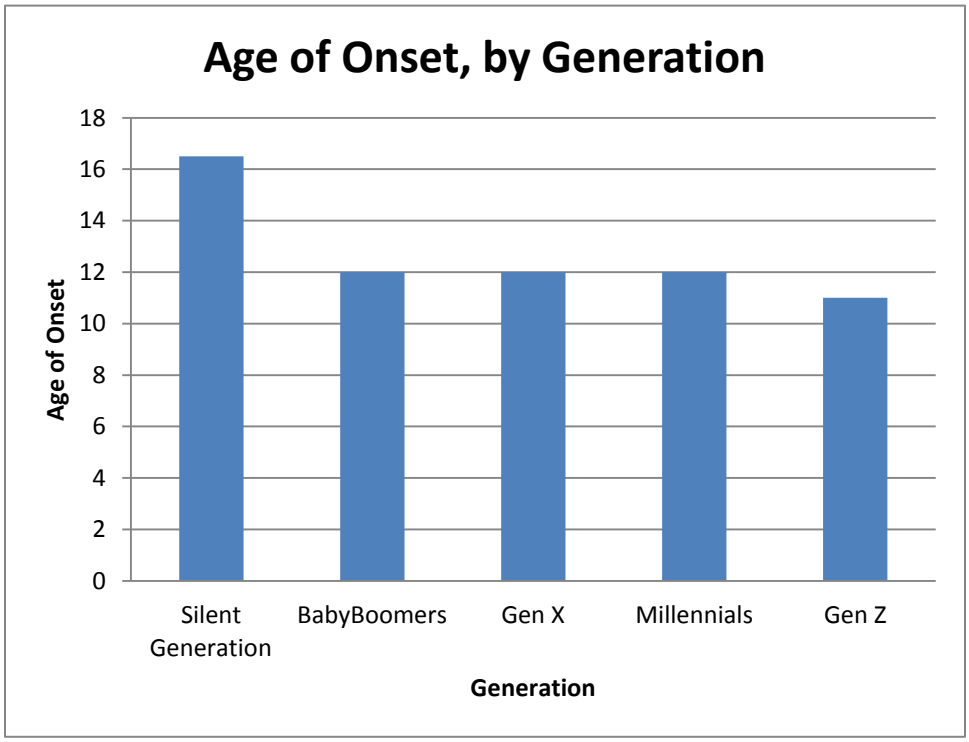


The average age of onset across all ages was 12 (from table, above). Both the median and mode were 12. Similarly, the average age of onset was 12 for baby boomers, Gen Xers, and Millennials. Gen Z (under age 12) had a sample size N=1; this profile had an age of onset of 11. The major difference was from the Silent Generation which had an average age of onset at 16.5. However, this generation had a sample size of only N=2.



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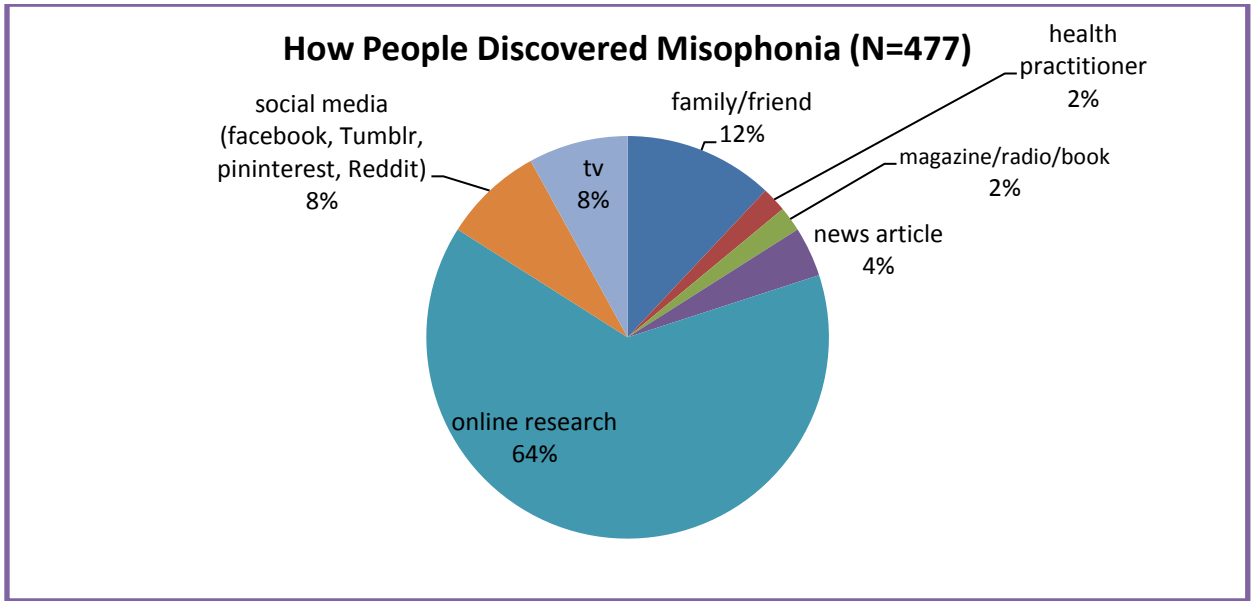
Learning about Misophonia

The disorder is not yet in the American Psychiatric Association manual DSM-V that sets forth diagnostic criteria, descriptions, and other information to guide the classification and diagnosis of conditions. It is not acknowledged as a syndrome by the medical community, and is barely known by the mental health community. It is therefore interesting to ascertain how individuals get diagnosed or self-diagnose.

As seen earlier, the millennial generation widely uses the internet; thus, this vehicle is a known tool in the communication of the disorder and in building international community around the syndrome. Yet not everyone uses the internet; of those that do, only a certain percentage does active research.

Data was aggregated such that responses such as 'online' and 'online research' were listed as online research. Responses such as 'tumblr', 'reddit', and other named social media sites were listed as social media. Regardless of how they found the information, if another person informed the subject about misophonia, even if they used the internet to get information, it was listed as family/friend. Medical and mental health professionals were aggregated into the class health practitioner.



"News article" was differentiated from other sources because of lack of information about where the news article came from. Thus, the final classes of information were: class, family/friend, health practitioner, magazine/radio/book, news article, online research, social media, and television.

The responses (N=477) indicate that internet research is the single largest contributor to finding information. It represents 64% or roughly two-thirds of information gathering. However, bear in mind that in this sample, the majority of survey respondents are millennial generation users who are known to use the internet as their single source of information. Adding in social media, the internet accounts for nearly three-fourths (72%) of how people discovered misophonia.

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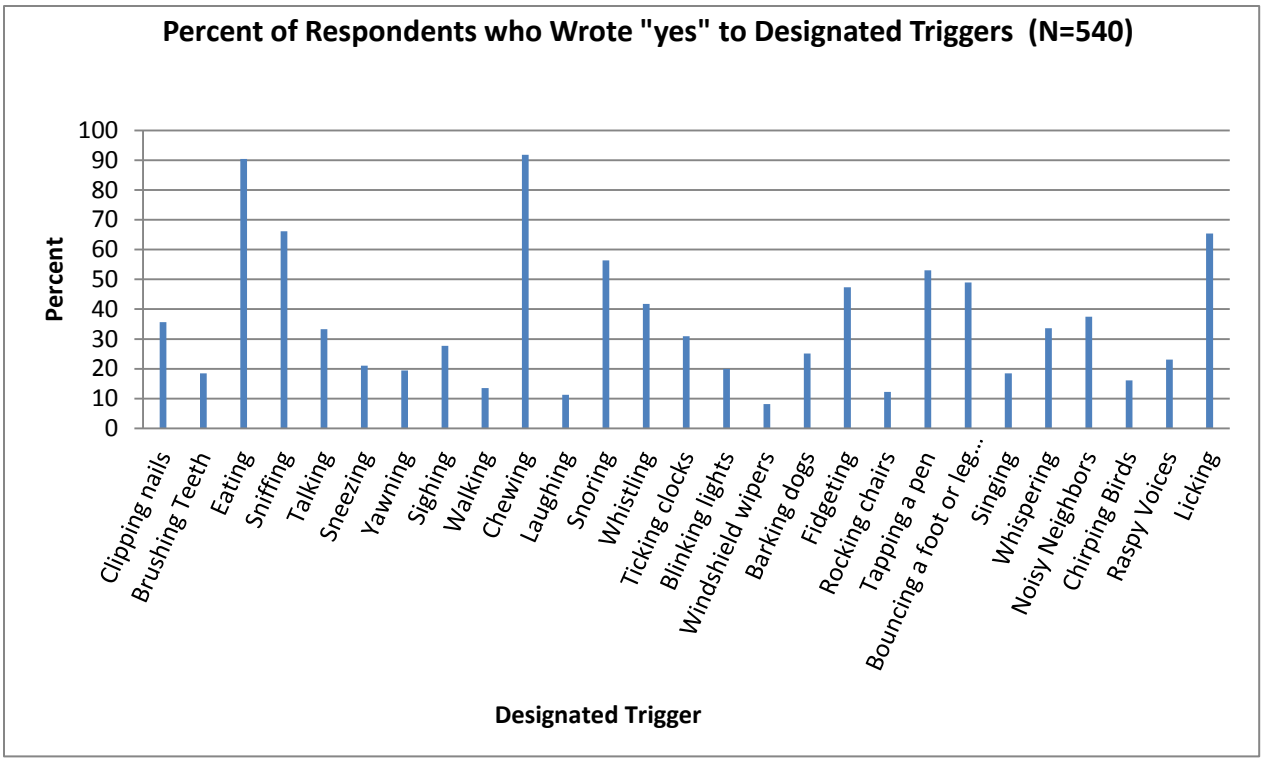
Triggers

The data set was altered by deleting six subjects that said "no" to all the triggers.

The survey presented a series of 27 triggers to which a respondent could designate yes (it is a trigger) or no (it is not a trigger). These are, in alphabetical order: barking dogs, blinking lights, bouncing foot or leg when sitting cross-legged, brushing teeth, chewing, chirping birds, clipping nails, eating, fidgeting, laughing, licking, noisy neighbors, raspy voices, rocking chairs, sighing, singing, sneezing, sniffing, snoring, talking, tapping a pen, ticking clocks, walking, whispering, whistling, windshield wipers, yawning.



The survey did not specify attributes of these 27 triggers and did not account for the many nuances that comprise a trigger. In other words, singing could refer to a parent singing, singing from a stranger, singing on the radio, or singing from a chorus during a religious event. Similarly, walking could refer to the tapping sound of someone walking on heels or the dragging sound made by flip flops .One could argue that these characteristics make a trigger distinct from another trigger. In this regard, the data presents only an overall vision of what a trigger might be, since the characteristics that comprise a trigger itself differ from person to person.

The two most prevalent triggers are chewing and eating. These are followed by sniffing, snoring, and licking, triggers that are also associated with the nose and the mouth. It is interesting to note the prevalence of two non-auditory triggers, fidgeting, defined as "moving about restlessly, nervously or impatiently" (Random House) and foot/leg bouncing. These two visual triggers suggest repetitive movements.

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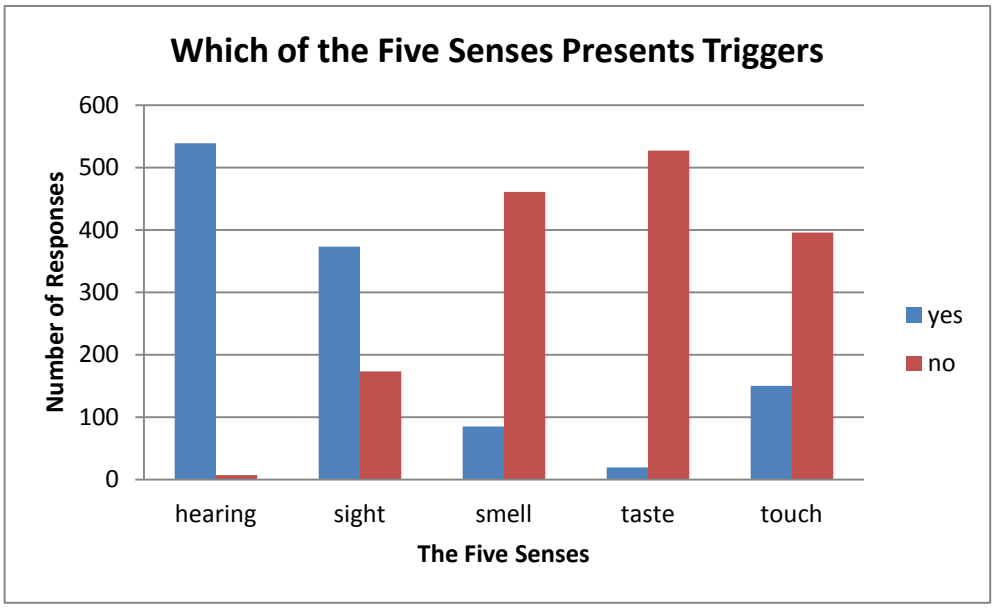
Another survey question asked, "Please select which senses have been triggers for you in the past." The five senses, sight, sound, smell, taste, and touch were listed. The survey question is vague and implies type of triggers, i.e., sound trigger, visual triggers, olfactory triggers, gustatory triggers, and physical touch triggers. It also implies that the trigger response is the same for all triggers, i.e., that an auditory (sound) trigger elicits the same response as a gustatory (taste) trigger. This distinction is important because anecdotal reports by people with misophonia indicate that an unknown number of people with misophonia have other occurring sensory sensitivities. These other sensory sensitivities might be a co-morbid, or also-occurring, syndrome. Thus, the question might be testing for a co-morbidity, rather than describing misophonia, resulting in confounded information.



Sample size was N=546; a subject could respond up to five times. Ninety nine percent of the subjects reported that hearing presented triggers. This fully demonstrates that the disorder's first and primary trigger is an auditory trigger. Roughly two-thirds or 68% of the subjects reported that sight presented triggers, underscoring the prevalence of visual triggers.

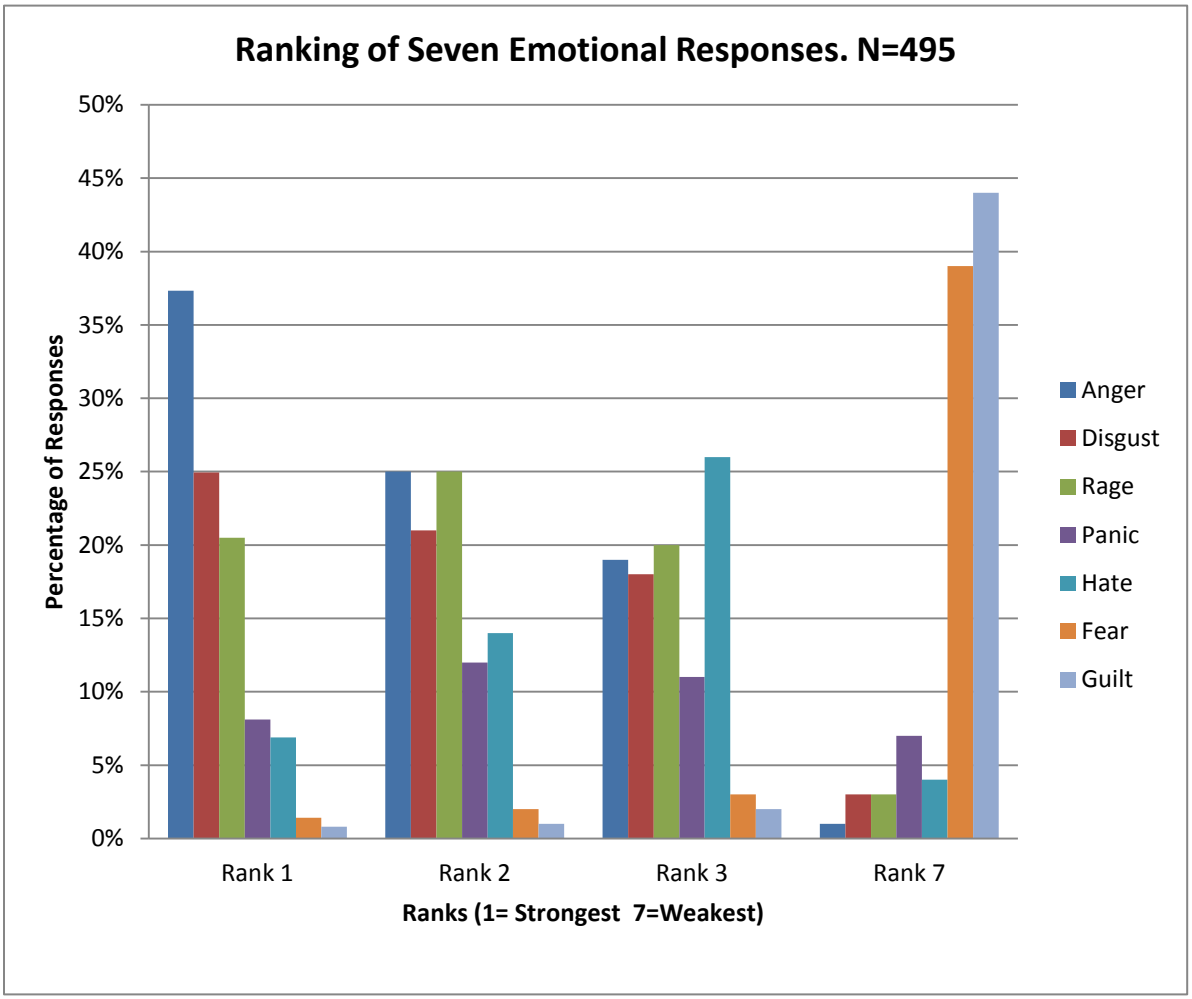
While smell presented triggers, and is often noted by people with misophonia (here, 16%), it is interesting to note that subjects reported touch as presenting triggers. This phenomenon has been reported in non-formal, internet settings in describing other physical issues. People with misophonia report being touch sensitive, i.e., have sensitivities to wool, tight clothing, turtle neck sweaters, the insides of socks etc. They also report being disturbed by being inadvertently touched in a crowded environment. A recent article also found small to moderate correlations of misophonia to olfactory and tactile sensitivities and suggests that "Recognizing other types of sensory sensitivities in individuals, such as tactile sensitivity, may help in the detection of concurrent increased sound sensitivities." (Wu, M., Lewin, A., Murphy, T., and Storch, E. (2014). *Misophonia: incidence, phenomenology, and clinical correlates in an undergraduate student sample*. Journal of Clinical Psychology, Vol. 00(00), 1–14). However, being sensitive to

and being triggered by touch are two separate and different responses. The relationship between misophonia and tactile sensitivity warrants further study.

How Triggers Manifest

Triggers manifest or elicit varying emotional reactions in different individuals. Misophonia has been characterized by some as an anger disorder. Disgust has also been cited as an emotional response, albeit not as consistently or frequently reported as anger. A number of people with misophonia state that they feel disgust—either by the source of the trigger (i.e., "The gum chewer disgusts me") or the behavior of the source (i.e., "The way that person eats is disgusting"). (See Krauthamer, J. 2013. Sound-Rage. A primer of the psychology and neurobiology of a little known anger disorder. Chalcedony Press. 210 pgs.)

The survey asked respondents to rank seven emotional responses closely associated with symptoms: anger, disgust, panic, rage, guilt, hate, and fear, with "1" being first or strongest and "7" being least or weakest. Each ranking group (rank 1, rank 2… rank 7) was tabulated by percentage of responses of each emotion. The first three ranks and the last rank are in the figure, below.



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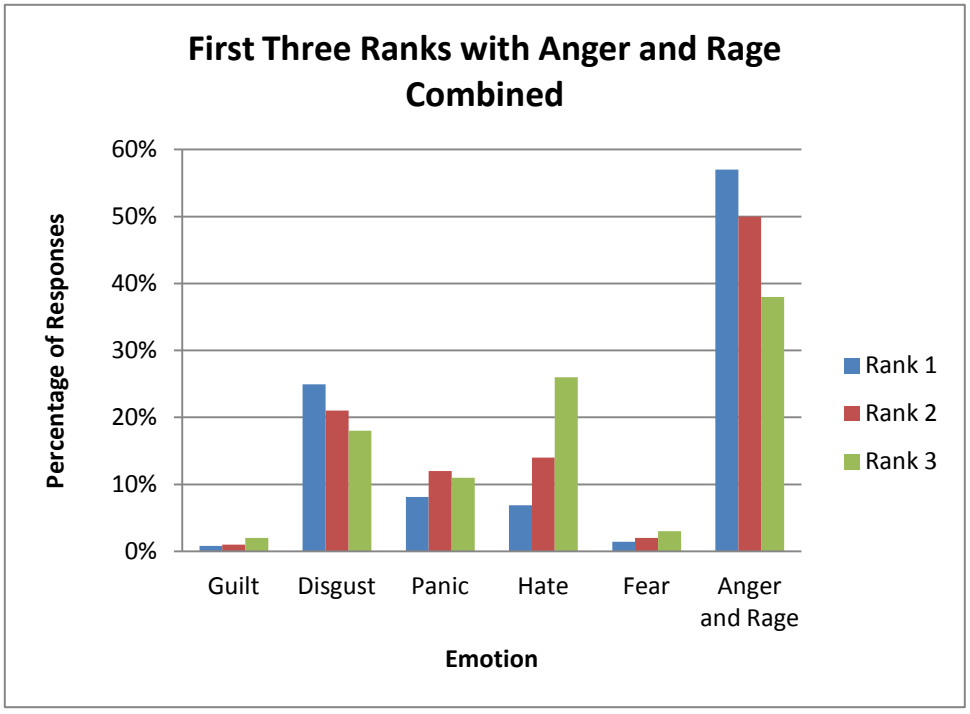
The rankings indicate that anger is the most foremost emotional response associated with a trigger, followed by disgust. (Statistical significance tests have not been performed; it is unknown if the difference between anger and disgust is statistically significant, i.e., a real difference, or a difference due to chance.) Hate becomes more apparent as a third most associated emotion. Fear, which is a key factor in phobias and anxiety disorders, does not appear to be associated with misophonia. Guilt is even less associated with the disorder.

One can argue that rage and anger are the essentially the same emotion, differentiated only by intensity. "Rage arises when the intensity of anger isn't quite enough to deal with the situation, such as when the boundary violations are severe and even life-threatening." (Krauthamer, J. 2013. Sound-Rage. A primer of the psychology and neurobiology of a little known anger disorder, Chalcedony Press 210pg.)

In this next table, the relative prevalence of each emotion for the first three rankings is compared. Hate is an emotion that is recognized by respondents within the first three ranks. It is clear that neither guilt nor fear appear to be relevant as markers of the disorder.



When combined, anger and rage account for the most prevalent response. A review of the individual 495 responses found that 99% indicated anger or rage as one of their top three responses. Disgust is listed by 63% of respondents as one of their top three responses. The study of disgust in the context of misophonia requires additional study.

With anger and rage so prevalent, it is interesting to look at confrontation, both verbal and physical. Misophonia has been characterized as "anger without overt acts of aggression," based on testimonies, interviews, and general research (See Krauthamer, J. 2013. Sound-Rage. A primer of the neurobiology and psychology of a little known anger disorder. Chalcedony Press.

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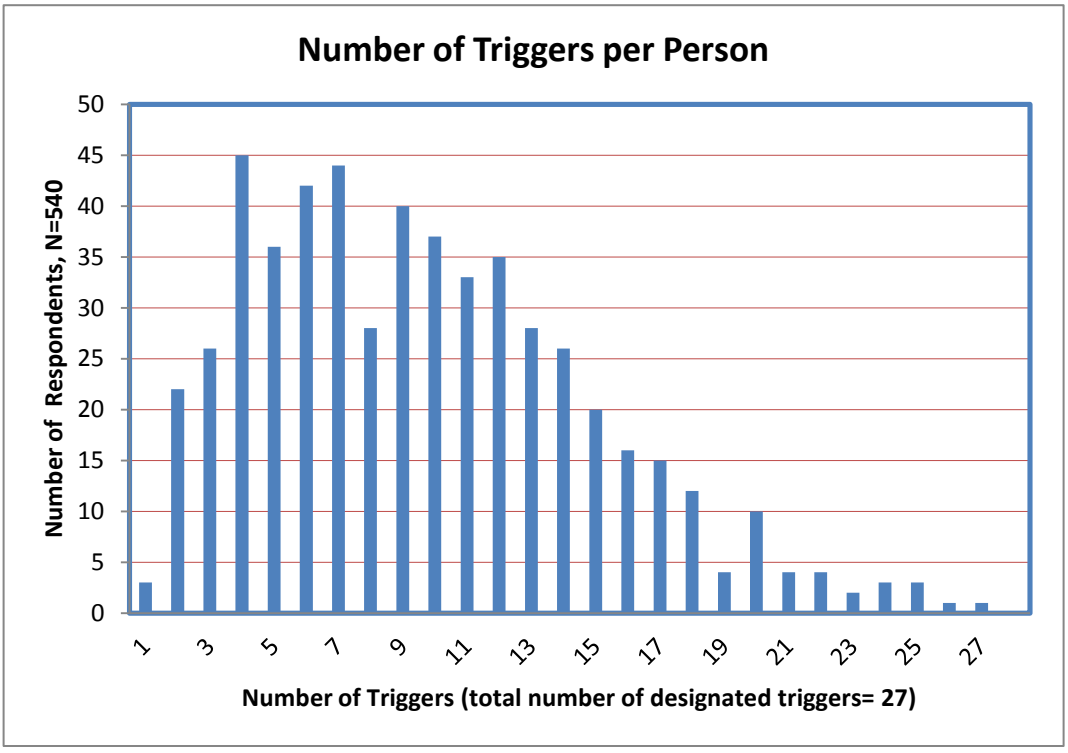
210 pgs.) To look at the relationship between misophonia and aggression, the dataset was corrected by deleting all records that listed "N/A" when asked "Do you believe that you are a confrontational person?" and for both questions about verbal and physical confrontation. The sample population was then sorted by those who saw themselves as confrontational versus those who do not see themselves as confrontational. This was done under the assumption that confrontational people exert overt aggression under most conditions, regardless of misophonia. The sample population was further deconstructed by separating genders.

Eighty six percent of the overall sample population (N=526) do not see themselves as confrontational people. Of the non-confrontational group, 93% of the females said they have had a verbal confrontation and 21% have said yes to having had a physical confrontation. Similarly, 84% of the males from this group have had verbal confrontations and 16% have had physical confrontations. Although one cannot generalize beyond this sample to the overall, true population of people with misophonia, this descriptive statistic suggests that the confrontational responses to trigger sources should be investigated further.

Number of Triggers

The survey presented 27 triggers for consideration. Total number of "yes" responses were tallied for each individual subject line (N=540). As see in the table below, the number of responses is skewed to the left, i.e., most respondents have 13 or less of the 27 defined triggers. However, the limitations of this observation is that the triggers listed may or may not be relevant to most people with misophonia; in addition the list did not include olfactory triggers. At least 100 typical triggers have been identified and annotated elsewhere (See Krauthamer, J. (2013). Sound-Rage. A primer of the neurobiology and psychology of a little known anger disorder. Chalcedony Press. 210 pgs.) This survey demonstrates that almost every respondent has two or more triggers.



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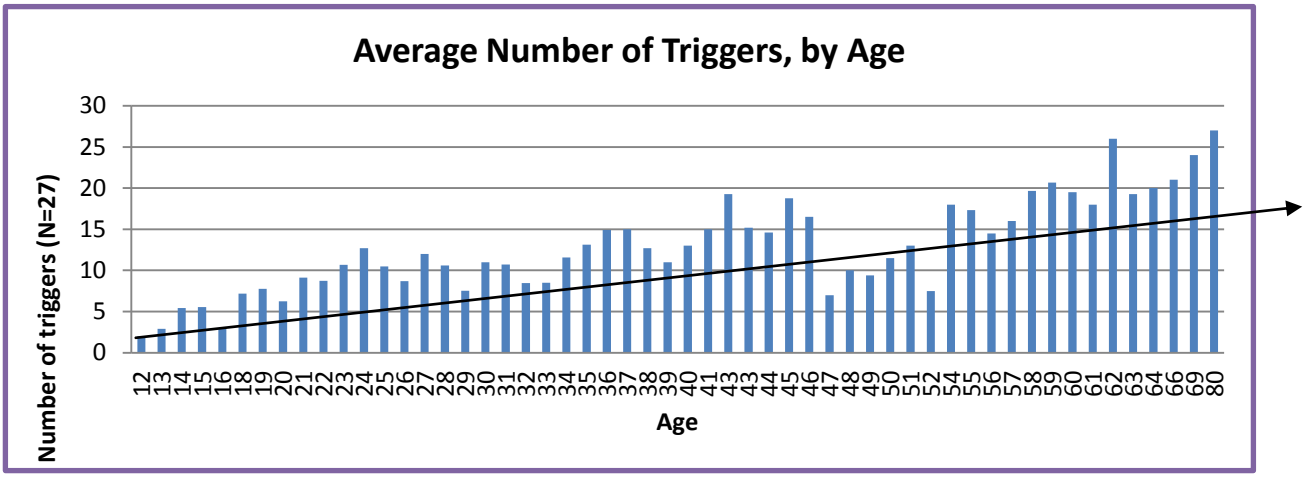
Triggers by Age

By taking the average number of triggers (where N=27 for triggers) for each individual age, one can glean if there is a trend or change in the number of triggers. It appears that the number of triggers is greater as the age progresses. An arrowed line demonstrates that trend, although the actual linear progression (y=mx +b) has not been established.

If the number of triggers increases, do old triggers drop off, to be replaced by new ones? It would appear this is not the case. When asked, "Have you ever had a trigger that is no longer a trigger?" 91% of respondents (N=480) replied no.



Symptoms Through Time

The questionnaire asked “Between when you first recognized symptoms of misophonia and now, would you say your symptoms have gotten 1) significantly worse, 2) slightly worse, 3) stayed about the same, 4) slightly better, or 5) substantially better.” The survey did not qualify the difference between “slightly,” ‘significantly,’ or ‘substantially’; nor did it qualify what “worse” or “better” mean. For example, significantly worse can mean there are more specific triggers (trigger expansion), sensitivity and reaction to triggers has increased, or that there has been a change in the source of triggers. These aspects of triggers are quite different from one another, and may represent different cognitive (thought) processes or environmental conditions.

Similarly, “substantially better” can mean that the triggers do not elicit as strong a response, that certain triggers have faded, or that particular people no longer are the source of a trigger. Thus, for this study we assume that “substantially worse” means that the syndrome has become increasingly present and prevalent in the subject’s life; conversely, “substantially better” means that the syndrome has reduced its prevalence and presence.

Subjects were aggregated into groups: one to five years with the disorder (Years with the disorder was derived by subtracting age of onset from current age as of 2013); six to ten years with the disorder; eleven to twenty years with the disorder, and greater than twenty years with the disorder.

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Descriptive Statistics of Misophonia.
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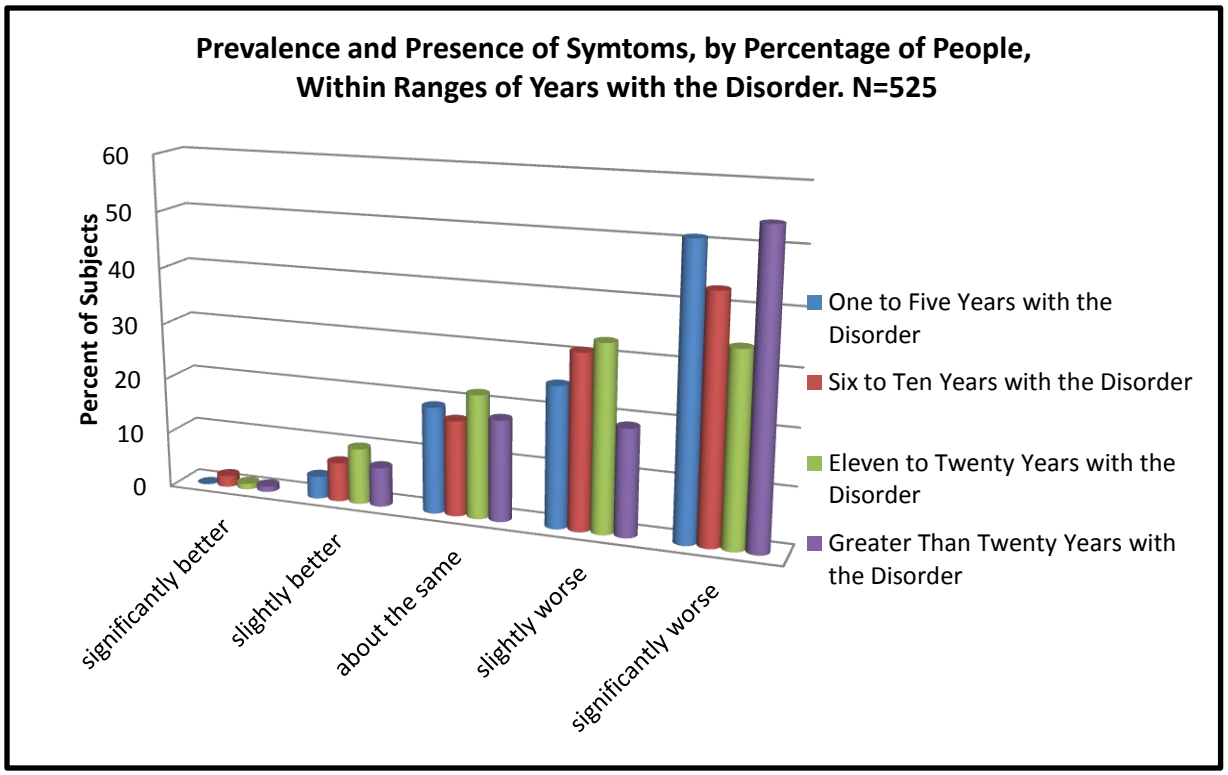

The above figure shows that for the majority of the sample population the disorder has grown significantly worse. It is difficult to ascertain the relationship between number of years (length of time) and the disorder getting worse, since all four age groups note that the syndrome is getting substantially worse. In fact, those with the disorder from one to five years have almost the same response as those who have had the disorder over twenty years. Interestingly, the response "significantly better" is very low, across all age ranges, as is "slightly better." Overall, it appears that the sample population subjects perceive that the disorder worsens to some extent through time.

<u>Presence of the Syndrome, by Gender, Through Time.</u>
Data was aggregated by gender.

Females have a higher incidence of reporting significantly worse symptoms than men. In contrast, males indicate a slightly higher incidence of symptoms being substantially better, slightly better, and about the same. Note, however, that these differences may not be statistically significant, i.e., these differences may be by chance, and not true differences.

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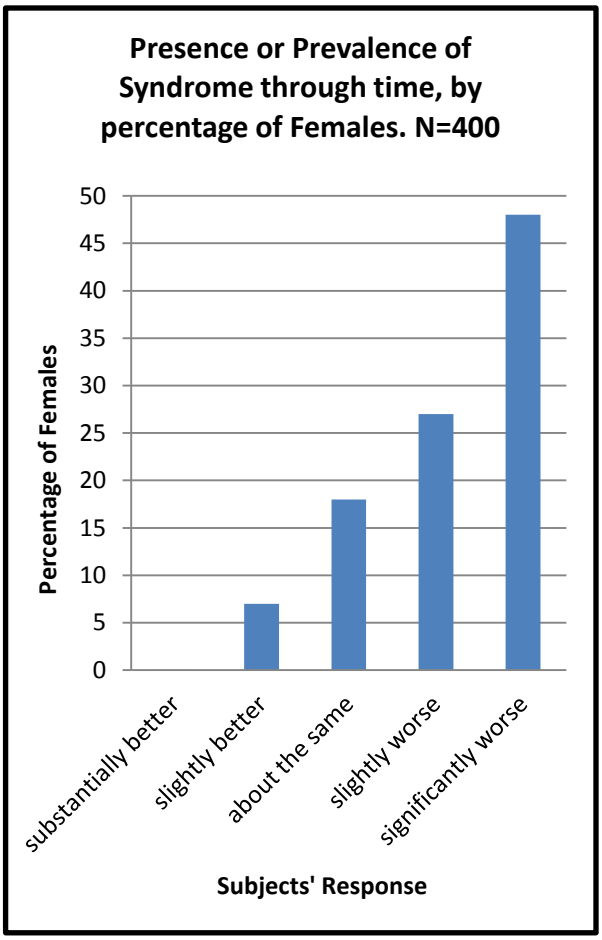
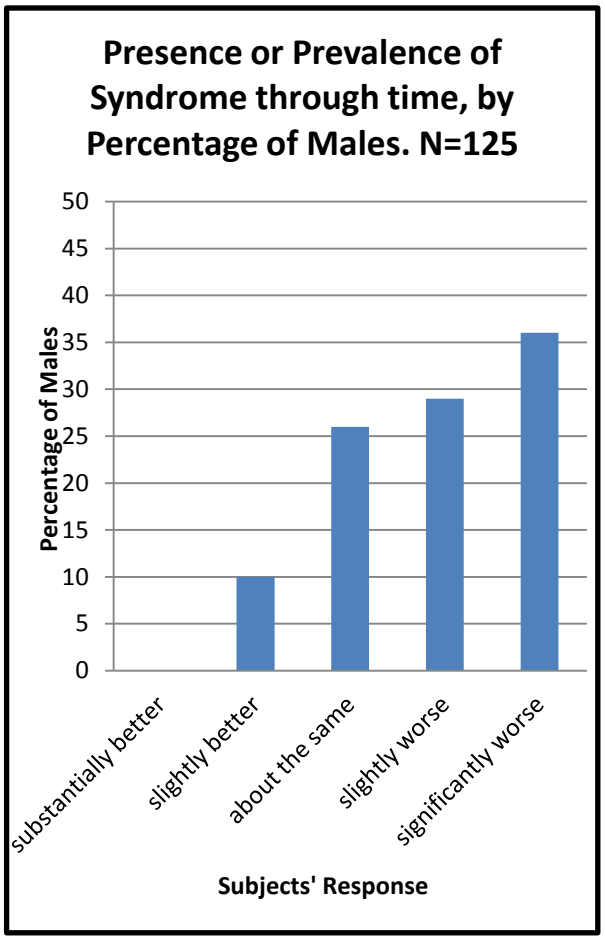




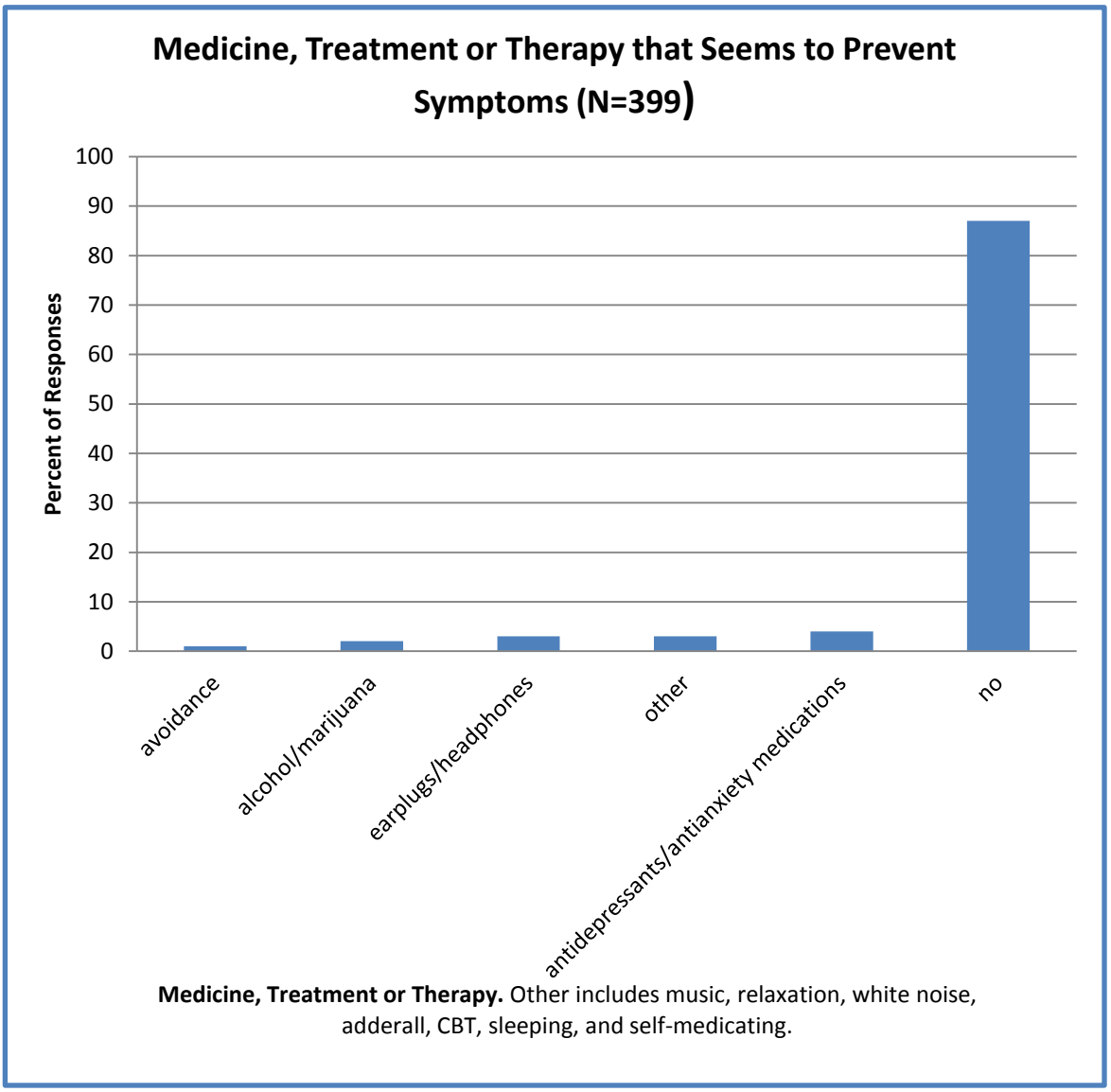
TREATMENT

The survey asked, "Have you found any medicine, treatment, or therapy that seems to prevent your symptoms?" Here, the assumption of the question is that as a result of the medicine, treatment, or therapy the triggers do not elicit an emotional (e.g., rage, anger, disgust) and/or physical (flight) response.

The sample responses were categorized as: alcohol and marijuana, anti-anxiety and anti-depressant medications, avoidance, earplugs, no (none) and other. "Self-medicating" as a response could have been included in the alcohol and marijuana category, except that there might be other forms of self-medicating. Avoidance and earplugs are not a medicine, treatment, or therapy; however, since there were over two responses of each they were included as a separate category. Where there were two responses or less, they were placed in the "other" category, comprising: headphones, music, relaxation, white noise, EMDR, adderall, CBT, sleeping, and self-medicating.

The responses clearly indicate that the majority of the responses, or 89%, were "no." This was followed by very low responses of anti/anxiety and anti-depressant medications (3%) and

earplugs (3%). What is particularly alarming is the number of responses (2%) that use alcohol and marijuana as a form of prevention of symptoms.



Medicine, Treatment or Therapy. Other includes music, relaxation, white noise, adderall, CBT, sleeping, and self-medicating.

The survey question then asked, "Have you found any medicine, treatment, or therapy that seems to alleviate your symptoms?" Here, the assumption is that alleviate means the medicine, treatment, or therapy reduces the intensity of emotional/physical responses.

Many subjects responded with answers such as walking away or wearing earplugs. These might be considered coping mechanisms rather than medicine, treatment, or therapy. However, because there were a number of these types of responses, headphones/earplugs, walking away and removing one's self from the trigger are used as categories in the following descriptive analysis.

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The most common response (76% of all responses) was "no." This was followed by anti-anxiety/anti-depressant medications (5%) and earplugs/headphones (4%).

Both questions indicate that the vast majority of people with misophonia find little, if any, relief from medicines, treatment, or therapy. In the prevention of triggers, only 11% describe mechanisms that help to prevent triggers; of these, only 3% are from prescribed medications. Similarly, in the alleviation of symptoms, medicine (5%) and therapy (here, cognitive behavior therapy) work for a relative few of the sample population.

That there are few, if any, known effective medicines, treatments, or therapies is another indication of how few practitioners, researchers and theoreticians there are in the misophonia field. This is compounded by the possibility that people with the disorder do not necessarily seek out help. Eighty one percent of the sample population (N=542) responded "no" to the question, "Have you discussed your misophonia with your doctor?"

SUMMARY

Despite an overwhelming need for effective treatments, a fundamental lack of research from academic and mental health communities has spurred grass root activity for information. On July 8th, 2013, a group of people who suffer from misophonia, self-identified as a "group of amateur researchers," compiled a survey of just over 120 questions with the hope of generating a data base of information. The survey has a host of design and implementation shortcomings. Nevertheless, descriptive statistics of the sample population can be derived from a number of the survey questions. adjusted for use. The results here can be cited as Krauthamer, Judith T. (April 2014). *Descriptive Statistics of Misophonia*. Retrieved online from www.sound-rage.com

The survey responses present a number of limitations to generalizing results from the sample population to a greater populaton. Three times as many females as males were respondents in the sample (N=546). It would be difficult to extrapolate this gender bias to the population of people with misophonia because women are more likely than men to search online for health information. The majority of respondents are members of the Millennial generation. This group comprises the most active internet users; it would be difficult to extrapolate this age bias to the population of people misophonia.

Millennials actively seek online information and community, and this presents an interesting shift in the developing awareness of the disorder. Many [older] people with misophonia have spent the majority of their lifetime unaware that they had a genuine syndrome. They perceived their misophonia-related behaviors and reactions as quirks or personal issues and not from having a disorder. Unaware that other people experience what they experience, they have felt isolated and alone. The availability of online information and connection via social media is leading to a new generation of people with misophonia who will most likely discover that they have a syndrome and who will build the foundation for further inquiry.

Overall, the average age, median age, and mode age of onset of misophonia across all ages is 12 and 99% of the subjects reported that their most prevalent triggers are chewing and eating. A

large percentage (68%) reported that sight presented triggers, underscoring the prevalence of visual triggers. While smell presented triggers, and is often noted by people with misophonia (16%), it is interesting to note that subjects reported touch as presenting triggers. People with misophonia report being touch sensitive, i.e., have sensitivities to wool, tight clothing, turtle neck sweaters, the insides of socks etc. A recent article also found small to moderate correlations of misophonia to olfactory and tactile sensitivities and suggests that recognizing tactile sensitivity may help in the detection of concurrent increased sound sensitivities. The relationship between misophonia and tactile sensitivity warrants further study.

Anger is the foremost emotional response associated with a trigger, followed by disgust. A review of 495 responses found that 99% of respondents indicated anger or rage as one of their top three emotional reactions to triggers. Given that anger and rage figure prominently in the disorder, it is interesting to look at the extent of confrontation on the part of people with misophonia. While 86% percent of the overall sample population (N=526) do not see themselves as confrontational people, 93% of the females and 84% of the males of the non-confrontational group have had verbal confrontations due to misophonia. And 21% of females and 16% of males from the non-confrontational group have said "yes" to having had a physical confrontation. In this sample, up to one fifth of people who view themselves as non-confrontational have had some sort of physical altercation. The nature and extent of physical confrontations should be explored further.

The vast majority of people with misophonia have at least two or more triggers; once a trigger is established, it does not go away. Yet few find little, if any, relief from medicines, treatment, or therapy. Mechanisms that help to prevent triggers are described by only 11% of the sample population; of these, only 3% are prescribed medications. Similarly, medicine (5%) and therapy (here, cognitive behavior therapy) alleviate symptoms for a relative few of the sample population. It is disconcerting that 2% of the population find relief from alcohol and marijuana.

That there are few, if any, known effective medicines, treatments, or therapies is another indication of few practitioners, researchers, and theoreticians in the misophonia field. This scarcity of help is compounded by the possibility that people with the disorder do not necessarily seek out help. Eighty one percent of the sample population (N=542) responded "no" to the question, "Have you discussed your misophonia with your doctor?"

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