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ARTICLE

Autonomous sensory meridian response (ASMR) and frisson: Mindfully induced sensory phenomena that promote happiness

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ABSTRACT

There are many important phenomena involved in human functioning that are unnoticed, misunderstood, not applied, or do not pique the interest of the scientific community. Among these, *autonomous sensory meridian response (ASMR)* and *frisson* are two very noteworthy instances that may prove to be therapeutically helpful in promoting subjective well-being or happiness, which can be considered synonymous with mental health. This review attempts to elucidate the characteristics of each phenomenon, including proposed similarities and differences between the two. We present an argument that ASMR and frisson are interrelated in that they appear to arise through similar physiological mechanisms, and both may be induced or enhanced through the practice of mindfulness.

KEYWORDS

autonomous sensory meridian response; happiness; frisson; mindfulness; music therapy; subjective wellbeing

ASMR

According to Barratt and Davis (2015), autonomous sensory meridian response (ASMR) “is a previously unstudied sensory phenomenon in which individuals experience a tingling, static-like sensation ... in response to specific triggering thoughts, audio, and visual stimuli” (p. 1). Jennifer Allen in 2010 coined the term *autonomous sensory meridian response* to describe this sensation. The term, which is nonscientific, attempts to recognize the key characteristics of this euphoric, relaxing feeling, which is primarily felt in the scalp, neck, and spine, and sometimes reaches into the limbs. In this context, *autonomous* means that the individual possesses the ability to facilitate or produce the sensation at will. *Sensory* refers to the transmission of information through the nervous system and brain in response to an external trigger, and the individual’s simultaneous perception of this feedback with the senses. *Meridian* means the highest point or apex, and is also an antiquated term for euphoria. In traditional Chinese medicine, the term also describes the pathways taken by the *qi*, or life energy, as it flows through the human body. A third meaning for meridian is the line or midpoint between the north and south poles. According to Richard (2015a), combining these last two meanings for meridian could be suggestive of how the nervous system is organized in a vertical sequence along the brain and spine, where the

response is primarily located. *Response* is how the individual reacts to a triggering stimulus or thought (Richard, 2015a).

This atypical response has most likely been experienced since childhood (Barratt & Davis, 2015). It is often difficult for individuals to describe their response to external triggers, which often, but not always, include crisp sounds, whispering, and slow or repetitive movements (Barratt & Davis, 2015). Ahuja (2013) enumerated a list of triggers that were identified on a now defunct website called ASMR-research.org; these included “exposure to slow, accented, or unique speech patterns”; “watching a person in a diligent and attentive manner complete a task”; and “touch from another on head or back” (p. 444). The triggers have a differential effect on individuals (Barratt & Davis, 2015); a trigger that induces the response in one individual may have no effect, or may even be aversive, for someone else.

Interest in ASMR, which is primarily observable within the online community, has erupted over a relatively brief time span beginning in 2007. Since then, discussion of the ASMR sensation spread from a single obscure thread in an online health forum to become a hugely popular Internet topic (Brodeur, 2014). Now, there are numerous sites devoted to the phenomenon, and YouTube has literally millions of videos designed by so-called “ASMR-tists” to induce the experience in

viewers by employing common visual and auditory triggers. The online momentum has not escaped the attention of the mainstream media. The *Huffington Post* (Sztabnik, 2014), *BBC News Magazine* (Higham, 2014), *The Atlantic* (Beck, 2013), the *New York Times* (Fairington, 2014), the *Washington Post* (Gibson, 2014), the *Boston Globe* (Brodeur, 2014), *ABC News* (Davis, 2014), and Chicago Public Radio's popular syndicated radio show *This American Life* (2013) are just some of the outlets that have run stories on ASMR. The epigrammatic videos are produced by a variety of mostly young individuals who, having grown up in the Internet era, are fluent and familiar with this form of media communication. Three of the most popular ASMR content producers are Maria of GentleWhispering, Heather-Feather, and Ally of ASMRrequests. Some ASMRtists, such as Maria, report that they began producing videos after perceiving their own psychological benefits from viewing the videos of other producers (Beck, 2013). In addition to content created intentionally for ASMR, individuals have incidentally found other types of media to be potent triggers, such as videos of Japanese tea ceremonies and clips of "The Joy of Painting," the PBS program hosted by landscape painter Bob Ross from 1983 to 1994 (Schneider, 2015).

Prior to recent popular attention, many people who regularly experienced this sensation probably did so without giving it a second thought or even stopping to register it. As BuzzFeed contributor Sean T. Collins explained, "After all, people say 'ooh, that gave me chills' all the time, right? Because it was so common, or so I thought, I never bothered mentioning it to anyone" (Collins, 2012). However, several earlier documented examples can be found in published literary works. A compelling account is described in the autobiographical book *Congratulations, It's Asperger Syndrome* (Birch, 2003), which was published prior to any known online discussion, and well before the recent ASMR craze transpired. This passage offers an exemplary description of the author's triggers, her sensory and psychological responses, and how she essentially used the experience as a form of therapy to increase her well-being:

Although I had always loved libraries, going there deliberately to have ecstasy attacks is something I developed during my thirties. Not only was there the thrill of constantly finding new books . . . but there was the sensory aspect as well. The rustling of pages, the scuffling of people rummaging in their pencil cases makes my hair tingle in the most pleasurable way. I suppose this is how a cat feels when it purrs. (People eating apples or potato crisps has the same effect, but one does not normally hear those sounds in a library). Looking back beyond four decades I can identify the first time I responded this way to sound: when I was a

preschooler and my grandmother was teaching me how to make scrap-books—with the sound of her mixing up and stirring the flour-and-water paste being my ecstasy trigger. As long as I don't have any urgent reason to leave, I can just bliss out to these sounds. My brain unfocuses and my body goes weak. It's the best way I know to unwind from stress! If I should have to leave before the sound trigger finishes, it is very hard to get moving again—because I feel like a jellyfish. I feel lucky to have discovered something simple (and free) which gives me so much pleasure; the only drawback is my developing a dependence on it and having "withdrawals" when all the libraries are shut! (Birch, 2003, p. 98)

In *The Bell Jar*, written in 1963, author Sylvia Plath describes her reaction to a different sort of trigger:

He didn't answer but reached over and put his hand at the root of my hair and ran his fingers out slowly to the tip ends like a comb. A little electric shock flared through me and I sat quite still. Ever since I was small I loved feeling somebody comb my hair. It made me go all sleepy and peaceful. (Plath, 1971, p. 86)

The response is associated with several facets of happiness including positive emotions, relaxation, serenity, and attenuation of symptoms of anxiety, stress, chronic pain, and depression—in brief, an increase in happiness. Specifically with regard to depression, the participants in the Barratt and Davis study (2015) who indicated moderate to severe depression on the basis of the Beck Depression Inventory II (Beck, Steer, & Brown, 1996) "reported a significantly more uplifting effect of engaging in ASMR than those without depression" (p. 11). Ahuja (2013) stated that "most enthusiasts characterize ASMR as a mode of relaxation; some celebrate the ancillary benefits of videos as remedies for chronic symptomatic complaints, like insomnia or headaches. As a group, viewers attest to feeling better in all sorts of ways" (p. 444). Furthermore, Barratt and Davis (2015) proposed that the action of inducing ASMR may be a form of mindfulness, which "involves intentional bringing of one's attention to the internal and external experiences occurring in the present moment and is often taught through a variety of meditation exercises" (Baer, 2003, p. 123). Barratt and Davis (2015) explained:

Even when the tingling sensation is absent, many of the participants in the 2015 study stated their mood improved and symptoms of pain reduced. It is possible that devoting specific time to engaging in ASMR watching relaxed scenes play out and sitting quietly could be considered a form of mindfulness. Those who engage in ASMR take time to focus on positive emotions triggered by these stimuli, focusing exclusively on this task at hand. This behavior is very reminiscent of mindfulness practices, which have clearly been shown by several studies to have positive effect on both conditions. This categorization of the ASMR as an exercise in mindfulness meditation perhaps best explains the

improvements in mood observed in both depressed and non-depressed participants. (Barratt & Davis, 2015, p. 11)

As with mindfulness, the experience is brought about when individuals are at once closely attending to the triggering stimuli and tuned in to the body's responses. Teasdale, Segal, and Williams (1995) suggest that the control of one's attention may even be instrumental in preventing depressive relapses. To engage in ASMR, one must suspend the usual thoughts and worries of life to focus on some triggering scene or stimulus that is essentially meaningless. According to Maslen and Roache (2015), the entire concept of ASMR is truly inane at the surface, but this is part of the appeal. "Indeed the pointlessness of ASMR-inducing activities seems to be a significant, if not essential, feature. Its value lies in its pointlessness" (p. 4). The activities that trigger ASMR (i.e., scratching on boxes, shuffling papers, folding and refolding napkins) seem to be without merit. Further, it seems ridiculous to create a video of oneself engaging in these activities or even to spend time watching such a video. They acknowledge, however, that producing and watching ASMR videos is not at all absurd if the experience results in improved subjective well-being. Nevertheless, Maslen and Roache (2015) muse, "The conundrum still remains as to why we would find such a pleasure in watching activities which themselves are pointless" (p. 6). They believe that engaging in a meaningless activity is accompanied by a sense of relief for some, as it affirms that life can be taken at a slower pace and that much of our everyday stress and anxiety may actually be unnecessary. The authors conclude, "Perhaps absurdity is therefore at the center of the production and pleasure of ASMR" (p. 6).

To date, only two peer-reviewed scholarly articles have been published on ASMR (Ahuja, 2013; Barratt & Davis, 2015), and the legitimacy of this phenomenon continues to be questioned by some. There has been backlash against the ASMR community by skeptics who believe that it is an overhyped passing fad, and that those who lay claim to the experience are exaggerating the benefits. ASMR enthusiasts have sometimes been accused of harboring a wish to confer special status upon themselves by virtue of the fact that they are capable of having the sensation. One cause for such doubt is the current lack of data beyond self-report to verify that the response occurs. Yet, it is difficult to imagine that so many people could have the desire to promote an illusion, to the extent that they invest significant amounts of energy in creating ASMR videos, as well as time watching videos. Such videos, by most standards, would be considered inordinately boring on the basis of plot and action alone. Therefore, it seems highly likely that these viewers

are responding to some other strong reinforcement that is not immediately perceptible through thought. Within the ASMR community, there is a growing interest in eliciting the attention of the scientific community, not only to gather more evidence to support its existence, but to better understand this fascinating phenomenon and its potential applications.

Frisson

Although there is presently a tremendous lack of scientific literature on the topic of ASMR, several researchers in the field of musical cognition have studied a seemingly related sensation called *frisson*. Fairyington (2014) stated that the sensation resulting from ASMR might be a version of *frisson*, an intensely pleasurable emotional response to music. She quoted Mathias Benedek, a researcher from the University of Graz who has studied *frisson*, as stating, "ASMR may be a softer, quieter version of the same phenomenon. *Frisson* may simply be a stronger, full-blown response" (Fairyington, 2014, p. 3).

Scientific research has not revealed why music, which is universal throughout all cultures with few exceptions, can cause both positive and negative emotional responses (Fukui & Toyoshima, 2015). In Fukui and Toyoshima's (2015) study, participants who listened to their preferred "chill-inducing" music exhibited an increase in empathy and altruistic behavior, whereas participants who listened to music they disliked exhibited increased selfishness. "Music has a unique power to elicit moments of intense emotional and psychophysiological response. It resonates so deeply and viscerally as to elicit a physical, bodily response . . . termed 'chills', 'thrills', or 'frissons'" (Harrison & Loui, 2014; p. 1). Harrison and Loui (2014) defined *chills*, the most commonly used term, as entailing "a rapidly spreading, tingling feeling" (p. 2) that may also be accompanied by gooseflesh. They defined "thrills . . . not only as a shudder or tingling throughout the body, but as one that also includes emotional intensity" (p. 2). However, Harrison and Loui (2014) prefer the term *frisson* over *chills* or *thrills* and they cite Huron and Margulis' (2011, p. 591) definition as "a musically induced affect that shows close links to musical surprise and is associated with a 'pleasant tingling feeling', raised body hairs, and gooseflesh" (Harrison & Loui, p. 2). *Frisson* results in a thrilling "ripple of chills or goose bumps over one's body in emotional response to music" (Fairyington, 2014).

According to Maruskin, Thrash, and Elliot (2012), *frisson* should be a focus of greater research attention for three primary reasons. First, *frisson* is without doubt emotional and therefore can be employed to investigate feelings. In their abstract, Maruskin et al. (2012) stated that *frisson* sensations can be the result of experiencing

“the awful as well as the awesome” (p. 135) and propose that these sensations could “serve the function of signaling that an event in the environment is pertinent to one’s most deep-seated hopes and fears” (p. 135). A second major reason identified by Maruskin and colleagues is that there are considerable individual differences in frisson experiences, perhaps reflecting variability in personalities. Frisson research could shed light on fundamental relationships between personality factors and the body’s response to emotion and stress. Third, given that listening to music is often a bonding experience, frisson research may give insight into our evolutionary social motivations. Panksepp and Bernatzky (2002) theorized that cold chills could signal the need to reestablish social contact. They posit that chills in response to music may have evolved from animals as biological responses to the sounds of separation or distress calls. Maruskin et al. (2012) stated that “what appears to be a mere quirk of human neurophysiology may provide clues about thermoregulatory underpinning of social motivation . . . and makes frisson an intrinsically important topic of investigation” (p. 136).

Some neural and physiological correlates of frisson have been observed. Grewe, Nagel, Kopiez, and Atenmuller (2007) noted that the particular patterns of brain activity found by Blood and Zatorre (2001) during frisson responses have been associated with euphoria and positive emotions in other studies (Breiter et al., 1997). Blood and Zatorre (2001) also found heightened activity in systems that regulate attention. Craig (2005) reported that individuals who experience frisson when listening to music also have specific physiological changes, including change in their galvanic skin responses, and also, in some cases, goose bump formation.

The question is, why does music so powerfully influence emotion as to induce a physiological response? Blood & Zatorre (2001) showed that music invokes neural systems of reward and emotion much like biologically relevant stimuli (p. 11823). They stated that this was “quite remarkable, because music is neither strictly necessary for biological survival or reproduction, nor is it a pharmacological substance” (p. 11823). Blood and Zatorre (2001) suggest that although music may not be relevant to human survival, it may significantly function to benefit both our physical and psychological well-being. In fact, music therapy has been found to decrease clinical depression and anxiety and to increase subjective well-being.

The examination of those individuals who are sensitive to experiencing this pleasant tingling feeling and associated emotional responses has explored personality variables that may be related to the sensation (McCrae, 2007). Grewe and colleagues (2007) found that people who reported this reaction to music “showed a

preference for less intensive stimuli, they are not ‘thrill and adventure seekers,’” suggesting that these individuals do not need a very strong stimuli to feel a significant emotional response. McCrae (2007) found that the tendency to feel chills in response to aesthetic experiences was the single best predictor of openness out of 188 items on the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992) of the Big Five personality traits. Silvia and Nusbaum (2011) used Deyoung, Quilty, and Peterson’s (2007) Big Five Aspects Scale (BFAS) to measure participants’ personality traits. The BFAS defines each of the Big Five personality traits as incorporating two aspects. For example, *Neuroticism* includes the aspects of withdrawal and volatility; *Conscientiousness* includes the aspects of orderliness and industriousness; *Extraversion* includes the aspects of enthusiasm and assertiveness; *Agreeableness* includes politeness and compassion; and *Openness* includes intellect and openness or creativity. Silvia and Nusbaum’s results indicated that the Big Five personality traits accounted for approximately 50% of the variance in predicting frisson. Conversely to McCrae’s (2007) finding that aesthetic chills predict openness, Silvia and Nusbaum (2011) found that the openness or creativity subscale of the *Openness* factor was most predictive of one’s ability to experience frisson. In other studies, each of the Big Five traits has been found either positively or negatively associated with frisson in at least one study; however, no single trait has emerged as a consistent predictor of the experience across all studies (Maruskin et al., 2012). Interestingly, cognitive and demographic variables were not that important in Silvia and Nusbaum’s (2011) study. However, this was somewhat in contradiction to Panksepp’s (1995) earlier research finding that frisson is more likely to occur in females listening to sad music. Meanwhile, Nusbaum et al. (2014) found that individuals were more likely to experience frisson when they were happy or sad, but not when worried.

The degree to which frisson is predicted by particular elements of musical pieces has also been examined. Frisson is experienced across musical genres, and listeners are more likely to experience frisson when listening to preferred music (Grewe et al., 2007). Frisson is more likely to coincide with dramatic moments, such as crescendos (Panksepp, 1995). Unexpected and surprising elements and changes within the piece, including entries of solo voices or instruments and new harmonies, are also points where frisson tends to occur (Grewe et al., 2007). The reaction is thought to be associated with musical expectancy (Huron & Margulis, 2011). Although frisson occurs most at the moments of surprise shifts in the musical composition, it also increases with a listener’s familiarity with the piece (Panksepp, 1995). As explained

by Collins (2012), frisson is perhaps “a matter of expecting the unexpected.”

A consistent predictor of frisson is the attentiveness of the listener to the music (e.g., Grewe et al., 2007; Nusbaum et al., 2014). One is more likely to experience frisson when fully tuned in to the music, rather than while multitasking or when the mind is otherwise occupied. Perhaps by engaging in a more mindful way of listening to music, individuals can control and increase their experience of frisson. Given the association between frisson and positive emotion, this could have therapeutic value. Although “the ability of music to absorb and captivate people remains an enigma” (Fukui & Toyoshima, 2015, p. 2014), there have been some new perspectives in the treatment of disorders including those characterized by flattened emotionality. Sumpf, Jentschke, and Koselsch (2015) showed that inducing aesthetic frisson through employing emotional music and film scenes may be therapeutically useful in treating psychological disorders such as depression and schizoid personality disorder.

Making a link between ASMR and frisson

There is no scientific literature exploring whether ASMR and frisson are distinct psycho-physiological responses. Certainly there are differences in the most commonly reported triggers, with the frisson response being mainly associated with music, strong emotions, transcendence, or sudden realizations. However, Grewe, Katzur, Kopiez, & Altenmuller (2011) found evidence of frisson occurring in response to visual, auditory, tactile, and gustatory (taste) stimuli. With respect to the physical sensation, some speculate that intensity could be the major difference (e.g., see Fairington, 2014). However, additional differences have been identified in anecdotal reports of individuals familiar with both sensations (e.g., Collins, 2012; Higham, 2012). For example, Collins (2012) reported on the remarks of users of the message board Reddit who identified the emotional valence of the experience as a key distinction. Specifically, individuals tended to describe frisson as a feeling associated with excitement and arousal, while ASMR is said to generate feelings of relaxation and contentment. Another area of difference is the duration; frisson is usually described as a fleeting sensation of several seconds, while ASMR reportedly can last for many minutes. Although data are currently limited, it is assumed that ASMR is experienced by a smaller number of people than frisson. The prevalence of musical chills or frisson, as reported by participants in past studies of the phenomenon, has ranged from 25% to 90% (Nusbaum & Silvia, 2011).

Similarities between the phenomena are immediately apparent in descriptions of the physical sensation, which

often include words like “tingling,” “waves,” and “euphoric.” Both sometimes, but not always, involve goose bump formation along the spine. In the case of frisson, there is evidence that the experience is accompanied by a release of dopamine. It is theorized by some (e.g., Richard, 2015b) that ASMR may also involve the release of neurotransmitters in the brain. Both ASMR (Barratt & Davis, 2015) and music listening in general (Schäfer, Sedlmeier, Städtler, & Huron, 2013) have been implicated in the induction of flow-like states. Also, both occur when there is close attention to present sensory stimuli and simultaneous awareness of internal cues. Finally, given this central role of attention, both sensations appear to be linked to mindfulness, the practice of which can result in increases in positive emotions and well-being. Some of the questions being investigated by frisson researchers will need to be investigated with respect to ASMR to better understand the relationship between these experiences.

Conclusion

According to Fairington (2014), ASMR and frisson may be variations of the same mind-body phenomenon. More research is needed to determine if this is so, but there is little doubt that the two are related and share many characteristics. In some instances, experiences of ASMR and frisson may occur with limited conscious awareness on the part of the perceiver; however, we believe that both sensations can likely be cultivated through mindfulness, an act of attending to internal or external stimuli with an attitude of nonjudgmental acceptance (Marlatt & Kristeller, 1999). In fact, given this definition, we believe that mindfulness is a key foundational component of both experiences, which can be developed by focusing one’s attention on the present. ASMR and frisson are said to arouse very euphoric, relaxing, and pleasurable sensations. More importantly, if mindfulness is intrinsic to these experiences, they should also be effective in “alleviating a variety of mental health problems and improving psychological functioning” (Baer, 2003, p. 139), as well as promoting various facets of happiness or subjective well-being.

About the authors

Marisa A. del Campo holds National Certification in School Psychology and is practicing in Windham Public Schools in Connecticut. In addition, she is a doctoral student in school psychology at the University of Connecticut and is currently completing her dissertation. She has published several articles in prestigious school psychology journals and has made numerous presentations at national conventions.

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