



Contents lists available at ScienceDirect

## Journal of Retailing and Consumer Services

journal homepage: [www.elsevier.com/locate/jretconser](http://www.elsevier.com/locate/jretconser)

## Sonic sensations: Navigating the mixed outcomes of ASMR in retail advertising

Justin Cohen<sup>a</sup>, Sean Sands<sup>b,\*</sup>, Colin Campbell<sup>c</sup>, Alexis Mavrommatis<sup>d</sup><sup>a</sup> Ehrenberg-Bass Institute for Marketing Science, UniSA Business School, University of South Australia, Adelaide, South Australia, 5001, Australia<sup>b</sup> Department of Management and Marketing, Swinburne University of Technology, Hawthorn, VIC 3122 Australia<sup>c</sup> Department of Marketing, University of San Diego School of Business, 5998 Alcalá Park, San Diego, CA 92101, USA<sup>d</sup> Department of Marketing, ESADE Business School, Barcelona, Spain

## ARTICLE INFO

## Keywords:

ASMR  
Advertising  
Ad attitude  
Brand attitude

## ABSTRACT

This paper investigates the influence of Autonomous Sensory Meridian Response (ASMR) elements in advertising on consumer attitudes. Through three experimental studies, we assess the impact of ASMR on attitudes toward ads and brands across hedonic and utilitarian product categories, and for known and unknown brands. Our findings reveal a generally negative effect of ASMR on ad attitudes among the wider population but identify a positive impact among those who experience ASMR's physiological sensations, as serially mediated through physiological and emotional responses. Notably, negative brand attitudes were observed only with unknown brands. This research underscores the nuanced role of ASMR in advertising, highlighting the potential for positive effects within a specific consumer segment, while cautioning against its broader application.

## 1. Introduction

Recent years have seen social media spawn a myriad of viral trends. These trends can involve entertaining challenges, such as individuals completing dance challenges on TikTok, or more unsavory trends such as videos of people popping pimples or eating copious amounts of food (a trend called *Mukbang*, a Korean word that literally means eating broadcast) (An and Ha, 2021). Another popular trend, ranking as the third most searched topic on YouTube in 2023 (Srinivas, 2023), is ASMR (or Autonomous Sensory Meridian Response). ASMR is defined as “a feeling of well-being combined with a tingling sensation in the scalp and down the back of the neck, as experienced by some people in response to a specific gentle stimulus, often a particular sound” (Spence, 2020, p.28). On platforms like YouTube, ASMR often involves people whispering into a microphone while making a range of soft noises, which can result in a physiological response, or tingling sensation. People use ASMR as a form of relaxation, with many people finding the effect of ASMR pleasurable and describe it as akin to as a low-grade euphoria (Andersen, 2015).

Given the appeal of ASMR among some consumers, it has been proposed as a potentially fruitful advertising mechanism. Indeed, research is beginning to examine ASMR in the context of advertising

(Lee and Jung, 2019; Sands et al., 2022; Suci et al., 2023), which is not surprising given the number of brands that have experimented with ASMR ads. Brands such as IKEA, Zippo, KFC, and Apple to name a few have experimented with ASMR in their long-format ads. Michelob even featured an ASMR ad during the Super Bowl for ULTRA Pure Gold. Research has shown that ASMR can have a positive effect for ads, for instance by enhancing recall (Sands et al., 2022).

While sound is shown to have potentially powerful effect on consumers (Esteky, 2021; Ketron and Spears, 2019; Poushneh, 2021), relatively little is known about how ASMR impacts consumers. ASMR might conceptually impact ad outcomes in a similar way to novelty, for instance resulting in deeper information encoding and more elaborate memory traces (Craik and Tulving, 1975). However, ASMR is reported to positively impact around a third of the general population (Roberts et al., 2020; Swart et al., 2022) and little is known about the effect ASMR ads might more broadly have on consumer attitudes. Furthermore, considering not all individuals experience a sensory response to ASMR (Andersen, 2015), it is logical to infer that ASMR in advertising may not be universally appealing. However, much of the existing literature has shown positive effects of ASMR in ads (i.e., Chae et al., 2021; De Kerpele, Van Kerckhove, and Tessitore, 2023; Lee and Chen, 2023; Sands et al., 2022). Such effects are likely in part due to the composition of the same

\* Corresponding author.

E-mail addresses: [Justin.Cohen@unisa.edu.au](mailto:Justin.Cohen@unisa.edu.au) (J. Cohen), [ssands@swin.edu.au](mailto:ssands@swin.edu.au) (S. Sands), [colincampbell@sandiego.edu](mailto:colincampbell@sandiego.edu) (C. Campbell), [alexis.mavrommatis@esade.edu](mailto:alexis.mavrommatis@esade.edu) (A. Mavrommatis).<https://doi.org/10.1016/j.jretconser.2024.103900>

Received 7 February 2024; Received in revised form 23 April 2024; Accepted 7 May 2024

Available online 14 May 2024

0969-6989/Crown Copyright © 2024 Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

in such studies, which have typically focused on respondents with experience in, or a positive disposition toward, ASMR.

This research enriches the existing body of knowledge by suggesting that ASMR ads yield complex outcomes, necessitating a nuanced understanding. The objectives of this investigation are twofold: Firstly, to explore consumer reactions to ASMR advertisements, particularly in terms of their attitudes towards the ad itself and the associated brand. Secondly, we hypothesize that the beneficial effects of ASMR ads are sequentially mediated by a physiological response to ASMR and a subsequent emotional response, which enhance attitudes towards both the ad and the brand. Our research encompasses three studies, covering both hedonic and utilitarian product categories, and including both known and unfamiliar brands.

The remainder of this paper is organized as follows. First, we present a review of key literature and develop testable hypotheses. We present three studies which test our hypotheses in two different product contexts (hedonic, utilitarian) and across known and unfamiliar brands. We conclude with a general discussion of the findings, implications for theory and practice, as well as limitations and suggestions for future research.

## 2. Theoretical background and hypothesis development

### 2.1. How consumers respond to advertising

Three different factors – a consumer's motivation, opportunity, and ability (MOA) – affect how consumers process advertising (MacInnis and Jaworski, 1989; MacInnis et al., 1991). These three factors can be used to analyze how ad campaigns are responded to by consumers. MacInnis et al. (1991) argue that for advertising to be successful, it must not only capture the attention of the consumer but also be processed in a way that is favorable to the brand. Achieving both involves a complex interplay between an ad's content, the consumer's personal relevance to the message, and the context in which the ad is received (Xu et al., 2023).

Motivation to attend to an ad is influenced by the personal relevance of an ad's content to the consumer which drives desire to pay attention and engage with its message. Opportunity involves external conditions that facilitate or hinder a consumer's ability to process an ad, such as time constraints and environmental distractions. Ability, on the other hand, describes a consumer's cognitive resources and knowledge which affect their capability to understand and assimilate an ad's message.

Advertisers frequently strive to create ads that consumers attend to and find engaging, ultimately in the hope of influencing consumers. Elements of an ad such as sound (Kellaris et al., 1993) can drive consumer attention. Executional factors within advertisements, such as the use of novelty, emotional appeals, and the clarity of a message can significantly influence ad processing (MacInnis and Jaworski, 1989; MacInnis et al., 1991) and affect persuasion (Ang et al., 2007; Till and Baack, 2005). Novelty can be generated through distinctive or unusual elements that stimulate arousal and surprise (Ang et al., 2014), or even novel contexts such as augmented reality (Yang et al., 2020). Executional cues can also enhance a consumer's motivation by making an ad more engaging or improve opportunity for ad processing by reducing distractions or simplifying a message. ASMR is a novel auditory executional cue which we discuss in more detail next.

### 2.2. ASMR as an advertising stimulus

Recent research has built on the domain of sonic branding and examined the role of sensory cues in video advertising, particularly focusing on how auditory and visual elements effectively capture consumer attention and elicit emotional connections to brands (De Kerpel, Van Kerckhove, and Tessitore 2023). These authors outline the influence of sensory cues in shaping consumer attitudes through self-generated perceptions rather than overt advertiser messages, with visual cues serving to attract attention and evoke emotions, and auditory cues like

music and sound effects enhancing emotional response, brand attitudes, and purchase intentions. More specifically, recent research has investigated ASMR as an advertising phenomenon (i.e., De Kerpel, Van Kerckhove, and Tessitore 2023; Sands et al., 2022; Suci et al., 2023). By defining ASMR advertisements to include common triggers such as whispering, this literature shows how advertisers can leverage ASMR elements to boost the engagement and memorability of advertisements.

Although both ASMR and sonic branding incorporate auditory elements, they diverge significantly in concept and application. Sonic branding uses sound to augment brand identity, aiming to forge a distinctive auditory experience that resonates with a specific brand (Ballouli and Heere, 2015; Gustafsson, 2015). In contrast, ASMR is a sensory phenomenon characterized by a tingling sensation evoked in response to a wide variety of auditory stimuli that induce relaxation or pleasure (Barratt and Davis, 2015). Given its relatively niche following and limited application in advertising to date, ASMR can be seen as a novel form of auditory stimuli (Sands et al., 2022).

We believe ASMR ads are likely to be processed more extensively than traditional ads for a number of reasons. First, we expect an ASMR ad is more likely to be noticed than a traditional ad due to the sound and format being uncharacteristic of what is typically seen in advertising. This is similar to how absurdity in advertising has been shown to get viewer attention (i.e., Arias-Bolzmann et al., 2000). Highly novel, or unexpected stimuli – such as ASMR ads – are also thought to be processed more extensively. Prior research has shown that recall is enhanced when subjects are exposed to highly novel or unexpected stimuli (Arias-Bolzmann et al., 2000; Lehnert et al., 2013). As such, novel (unique) stimuli are expected to capture attention and enhance processing, in contrast to information that is mundane or expected.

However, it is important to note that physiological response to ASMR is only expected to occur in some individuals (Ferguson, 2018; Poerio et al., 2022). For those individuals who experience ASMR, specific triggering stimuli (i.e., whispering, personal attention, crisp sounds, and slow movements) often lead to tingling across the scalp or back of the neck. When used in ads, ASMR can attract attention, create a sense of calm (Suci et al., 2023), and aid recall (Sands et al., 2022; Taylor, 2022). However, similar to effects found for creative advertising, there is no guarantee ASMR ads positively impact consumer attitudes. In fact, in the context of creativity, highly creative ads can even diminish brand outcomes (Simola et al., 2020). As such, we expect that ASMR ads can have both negative and positive impacts on consumer attitudes.

### 2.3. The serial mediating effects of physiological response and emotional response

In a similar way to how shocking (e.g., Lee et al., 2020) or highly creative ads (e.g., Chen and Smith, 2018) can elicit mixed reactions, we argue that ASMR ads can have negative effects. We expect this because ASMR has been shown to have varying effects on consumers and is reported to physiologically impact between 28 and 38 percent of the population (Roberts et al., 2020; Swart et al., 2022). For the remaining proportion of the population that do not physiologically respond to ASMR, reactions to ASMR vary (Swart et al., 2022). Some consumers have a negative affective response (i.e., feeling less calm) while others can respond positively but not physiologically (i.e., positive affective response). For those consumers who have a negative reaction, they typically report a generally unpleasant experience following exposure to ASMR (Swart et al., 2022). These individuals may even experience feelings of anger, anxiety, or agitation from ASMR content, akin to the condition misophonia or hatred of certain sounds (Rouw and Erfanian, 2018). In some ways it is also similar to how individuals have uniquely different optimal stimulation levels for reactions to colors (Lichtlé, 2007).

Given the potential for extreme variation in response to ASMR and the fact that a minority of consumers have a positive physiological response, we expect an overall negative consumer response to ASMR

ads. This prediction is in line with research showing consumers who have a low level of processing motivation tend to have lower attitudes toward an ad and the brand (Yilmaz et al., 2011). We further predict that this response will spillover from individual reactions to the ad and impact attitude toward the ad and attitude toward the brand. To this end, we hypothesize the following with regard to consumer response to ASMR ads.

- H1. ASMR ads will have a negative main effect on attitude toward the ad.
- H2. ASMR ads will have a negative main effect on attitude toward the brand.

Many people report that ASMR triggers feelings of relaxation and reduced anxiety (Eid et al., 2022). However, this reaction is only experienced by people who have a physiological response to ASMR, which is common but not universal (Poerio et al., 2018). Additionally, the strength of the ASMR response varies from person to person. Some people experience a strong tingling sensation, while others only feel a mild sense of calmness. This suggests that ASMR responders lie on a spectrum, with some people experiencing more intense reactions than others. For those that do experience a response to ASMR, positive emotions commonly result (Lohaus et al., 2023; Poerio et al., 2022). When experiencing high affect (or strong positive emotions) it has also been shown that there is a transfer to attitude toward the ad and attitude toward the brand (Cox and Locander, 1987; Lutz, 1985; Mitchell and Olson, 1981; Wolin et al., 2002). As such, we expect that when ASMR ads are encountered by those that have a physiological response to ASMR, positive emotions ensue, and attitude toward the ad and attitude toward the brand are positively impacted through affect transfer. To this end, we hypothesize the following positive effect for ASMR ads.

- H3. ASMR ads will have a positive effect on attitude toward the ad that is serially mediated by an individual’s physiological ASMR response and subsequent positive emotions.
- H4. ASMR ads will have a positive effect on attitude toward the brand that is serially mediated by an individual’s physiological ASMR response and subsequent positive emotions.

### 3. Overview of studies

We present three studies to investigate the mixed effects of ASMR in ads. Specifically, we show that ASMR can have negative effects on consumer attitude (H<sub>1</sub>, H<sub>2</sub>) and that for a subset of consumers who experience a physiological response to the auditory sensation of ASMR, positive effects are serially mediated through physiological response and emotional response (H<sub>3</sub>, H<sub>4</sub>). We show these effects across different product categories (chocolate, Study 1; automotive; Study 2 and Study 3) and for known and unknown brands (known brand, Study 1 and Study 2; unknown brand, Study 3). In each of our studies, the experimental conditions were designed with identical visuals to ensure that any observed effects could be attributed solely to the audio component of the advertisements. Specifically, in each study we employed a single brand

advertisement across both conditions, from which the original audio track was removed. We then introduced a new audio track in one of two versions: a normal voiceover (without ASMR elements) and an ASMR-enhanced voiceover. Importantly, the rerecorded voice overs were presented with the same voiceover artists voice in each condition. Fig. 1 provides an overview of our conceptual model and hypotheses.

#### 3.1. Study 1: hedonic product category featuring a known brand

Study 1 examines the effect of ASMR ads on consumer attitude toward the ad and brand in the context of a hedonic product and for a known brand. We employ an experimental approach to test our theory (hypothesis 1 to hypothesis 4) using a sample of consumers drawn from the general population. Specifically, we examine whether consumer attitude toward the ad and brand are negatively impacted by ASMR in an ad. We also consider how positive effects can occur when accounting for an individual’s physiological response to the auditory (ASMR) stimulus and subsequent positive emotions.

##### 3.1.1. Procedure and sample

To develop the stimulus, we utilized an existing brand advertisement from a major Swiss chocolatier distributed worldwide and throughout the US (see Appendix A for details on the experimental conditions and stimuli). We removed the original voiceover from the ad and had a professional voice-over artist record two versions – one spoken in the same manner as the original ad (traditional ad) and one that was spoken in an ASMR style (ASMR ad). This allowed us to have two conditions of the ad with the same voice, varying only in terms of the audio ASMR element being present or absent. We employed a between-subjects experimental design and randomly allocated respondents into one of two conditions: ASMR ad or traditional ad. It is important to note that given our study was conducted online, our direct control over the participants’ auditory environment was limited. Despite this, we implemented several strategies to mitigate variability and maximize the consistency of the ASMR experience among participants. First, we provided environmental instructions and advised participants to engage in the study within a quiet setting to minimize background noise and disturbances. Second, we required that they have access to speakers, ensuring that all participants could hear the stimuli. And third, we conducted an audio calibration at the beginning of the survey by providing a ‘test’ video to allow participants to adjust their audio settings. These steps were applied in all studies and were crucial to ensure that the sound was clear and at a suitable volume, which helps standardize the auditory delivery of the ASMR stimuli. After watching the ad, respondents answered a set of multi-item scale questions adapted from existing literature to assess our key variables: attitude toward the ad, attitude toward the brand, physiological response, and emotional response (see Appendix B for a full list of scale items, descriptions, and reliabilities).

We utilized the Prolific research platform to recruit a sample of 300 respondents. After removing those who failed attention check questions (n = 15, 0.5%) we had a final sample of 285 respondents (54.7% female, 41.4% male, 3.9% other/prefer not to say; Age<sub>Mean</sub> = 36.8, s.d. = 12.7).

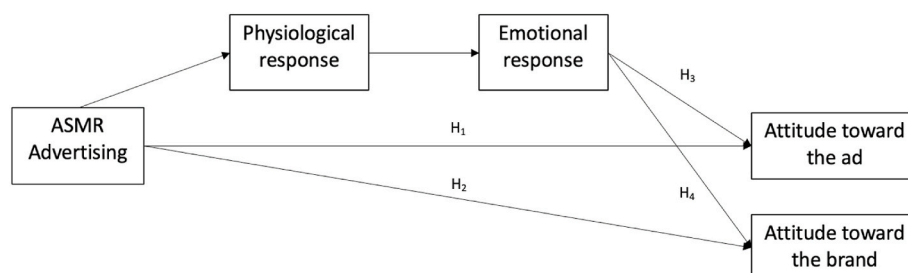


Fig. 1. Conceptual model.

In terms of our sample’s engagement with AMSR: 78% were aware of ASMR, 75% have viewed an ASMR video, 39% classify themselves as experiencing ASMR, and 40% report having experienced a physiological response to ASMR.

3.1.2. Results and discussion

**Manipulation check.** We aimed to verify the effectiveness of our auditory manipulation. To do so, respondents were provided a comprehensive description of ASMR, highlighting its characteristic sensory phenomena and common triggers. Following this, they were asked to evaluate the video they viewed in terms of its alignment with ASMR characteristics, using a 7-point scale ranging from “definitely not an ASMR ad” to “definitely an ASMR ad”. This process was crucial for ensuring that the distinction between ASMR and non-ASMR audio treatments was recognized and internalized by participants. A one-way ANOVA was used to test the manipulation, with those in the ASMR condition significantly more likely to classify the ad as an ASMR ad (ASMR ad:  $M = 3.96, SD = 1.12$ , Non-ASMR ad:  $M = 2.34, SD = 1.89$ ,  $F(1, 283) = 137.26, p < 0.001$ ). Hence, results confirmed the auditory manipulation operated as intended.

**Main effects.** We use a one-way analysis of variance (ANOVA) to test our predicted main effects of the presence (vs absence) of ASMR in an ad on attitude toward the ad ( $H_1$ ) and attitude toward the brand ( $H_2$ ). We conducted an ANOVA to investigate the effect of the auditory sensation of ASMR in an ad on consumer response in terms of attitude toward the ad and attitude toward the brand. Results, presented in Fig. 2, show a significant main effect between auditory manipulation (presence of ASMR) and attitude toward the ad ( $F(1, 283) = 24.61, p < 0.001$ ). However, there is no significant effect for attitude toward the brand ( $F(1, 283) = 0.87, p = 0.37$ ). In sum, these results provide support for  $H_1$  but not  $H_2$ .

**Indirect Effects.** We use Model 6 (Hayes, 2013) to test our predicted indirect effects ( $H_3, H_4$ ) effects. Specifically, we predict an indirect effect of an ASMR ad ( $X$ ) on attitude toward the ad ( $Y_1, H_3$ ) and attitude toward the brand ( $Y_2, H_4$ ), as serially mediated via ASMR response ( $M_1$ ) and positive emotion ( $M_2$ ). To test this, we code the condition as being either AMSR present = 1 or absent = 0. The coefficients reported below are indirect effects and their bias-corrected, boot-strapped 95% CIs, computed with 5000 resamples using the PROCESS macro (Hayes, 2013).

For  $H_3$ , results provide support for a full serial mediation, with a significant positive effect of ASMR ad, ASMR response, and positive emotion on attitude toward the ad ( $b = 0.09, boot SE = 0.05, CI [0.01, 0.19]$ ). This indicates respondents who experienced a physiological response to the auditory stimuli, in turn lead to a higher emotional response, and subsequently a positive effect on attitude toward the ad. Through this sequence, advertisements featuring ASMR led to higher ad attitude, thus providing support for the serial mediation hypothesis ( $H_3$ ).

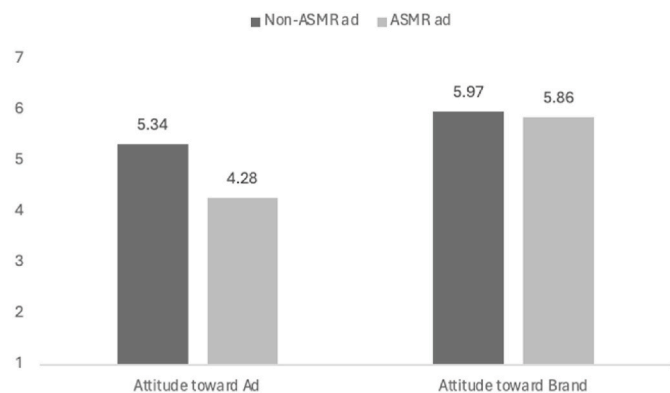


Fig. 2. Effect of auditory manipulation (ASMR) on attitudinal response (Study 1).

Similarly, for  $H_4$  results provide support for a full serial mediation with a significant positive effect of ASMR, resulting physiological response, positive emotion, and attitude toward the brand ( $b = 0.04, boot SE = 0.02, CI [0.01, 0.08]$ ). Again, this indicates that an advertisement featuring ASMR led to a higher level of physiological response, in turn leading to higher positive emotions, and subsequently positive effects on attitude toward the brand. Through this sequence, advertisements featuring ASMR led to higher brand attitude, thus providing support for the serial mediation hypothesis ( $H_4$ ). Taken together, our results provide support for  $H_3$  and  $H_4$  with the relationship between AMSR and attitude toward the ad ( $H_3$ ) and attitude toward the brand ( $H_4$ ) being fully serially mediated through ASMR response and positive emotions.

3.2. Study 2: utilitarian product category featuring a known brand

With Study 2 we test our theory, and hypothesis 1 to 4, in an alternative product context with a utilitarian product and, like Study 1, use a known brand. We employ the same experimental approach to test our theory (hypothesis 1 to hypothesis 4) using a sample of consumers drawn from the general population.

3.2.1. Procedure and sample

We develop the stimulus in a similar manner to Study 1. This time we utilized an existing brand advertisement from a major American automotive manufacturer. We followed the same process of removing the original voiceover from the ad and had a professional voice-over artist record two versions – one spoken in the same manner as the original ad (traditional ad) and one that was spoken in an ASMR style (ASMR ad). Again, a between-subjects experimental design was employed, and respondents were randomly allocated into one of two conditions: ASMR ad or traditional ad. After watching the ad, respondents answered the same set of multi-item scale questions from Study 1.

Again, we utilized the Prolific research platform and recruited a sample of 250 respondents. After removing those who failed attention check questions ( $n = 14, 0.6%$ ) we had a final sample of 236 respondents (55.9% female, 42.4% male, 1.7% other/prefer not to say;  $Age_{Mean} = 39.6, s.d. = 11.1$ ). In terms of our sample’s engagement with AMSR: 77% were aware of ASMR, 69% have viewed an ASMR video, 34% classify themselves as experiencing ASMR, and 32% report having experienced a physiological response to ASMR.

3.2.2. Results and discussion

**Manipulation check.** We used the same manipulation check, asking respondents to evaluate the video they viewed in terms of its alignment with ASMR characteristics, using a 7-point scale ranging from “definitely not an ASMR ad” to “definitely an ASMR ad”. A one-way ANOVA was used to test the manipulation, with those in the ASMR condition significantly more likely to classify the ad as an ASMR ad (ASMR ad:  $M = 3.64, SD = 1.32$ , Non-ASMR ad:  $M = 2.17, SD = 1.12$ ,  $F(1, 233) = 84.52, p < 0.001$ ). Again, results confirmed the auditory manipulation.

**Main effects.** We use a one-way ANOVA to test our predicted main effects of the presence (vs absence) of ASMR in an ad on attitude toward the ad ( $H_1$ ) and attitude toward the brand ( $H_2$ ). Results, presented in Fig. 3, show a significant main effect between auditory manipulation (presence of ASMR) and attitude toward the ad ( $F(1, 234) = 4.41, p < 0.05$ ). However, again we find no significant effect for attitude toward the brand ( $F(1, 234) = 0.44, p = 0.51$ ). In sum, again the results provide support for  $H_1$  but not  $H_2$ .

**Indirect Effects.** Model 6 (Hayes, 2013) is again used to test our predicted indirect effects ( $H_3, H_4$ ) effects with the coefficients reported being the indirect effects and their bias-corrected, boot-strapped 95% CIs, computed with 5000 resamples using the PROCESS macro (Hayes, 2013). For  $H_3$ , results provide support for a full serial mediation, with a significant positive effect of ASMR ad, ASMR response, and positive emotion on attitude toward the ad ( $b = 0.28, boot SE = 0.10, CI [0.11,$

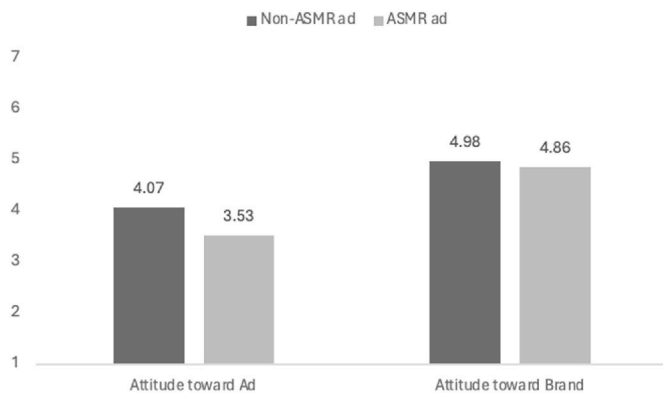


Fig. 3. Effect of auditory manipulation (ASMR) on attitudinal response (Study 2).

0.49]). This indicates respondents who experienced a physiological response to the auditory stimuli, in turn lead to a higher emotional response, and subsequently a positive effect on attitude toward the ad. Through this sequence, advertisements featuring ASMR led to higher ad attitude, thus providing support for the serial mediation hypothesis (H<sub>3</sub>).

Similarly, for H<sub>4</sub> results provide support for a full serial mediation with a significant positive effect of ASMR, resulting physiological response, positive emotion, and attitude toward the brand (b = 0.14, boot SE = 0.05, CI [0.06, 0.25]). Again, this indicates that an advertisement featuring ASMR led to a higher level of physiological response, in turn leading to higher positive emotions, and subsequently positive effects on attitude toward the brand. Through this sequence, advertisements featuring ASMR led to higher brand attitude, thus providing support for the serial mediation hypothesis (H<sub>4</sub>). Taken together, our results again provide support for H<sub>3</sub> and H<sub>4</sub> with the relationship between AMSR and attitude toward the ad (H<sub>3</sub>) and attitude toward the brand (H<sub>4</sub>) being fully serially mediated through AMSR response and positive emotions.

### 3.3. Study 3: utilitarian product category featuring an unknown brand

With Study3 we pivot to test our theory, again with a utilitarian product, but with for an unknown brand. Using an ad with no identifiable branding has the benefit of removing known brand associations (Campbell and Keller, 2003). We employ the same experimental approach as in prior studied, using a sample of consumers drawn from the general population.

#### 3.3.1. Procedure and sample

We develop the stimulus in a similar manner to Study 2. This time we utilized the same ad from Study 2 but removed all identifying brand information (i.e., in the intro and outro to the ad). Respondents were advised that they would be assessing a snippet of an ad, rather than an entire ad. Thus, two ads were created for an automotive brand that was not identifiable– one spoken in the same manner as the original ad (traditional ad) and one that was spoken in an ASMR style (ASMR ad). Again, a between-subjects experimental design was employed, and respondents were randomly allocated into one of two conditions: ASMR ad or traditional ad. After watching the ad, respondents answered the same set of multi-item scale questions as prior studies.

Again, we utilized the Prolific research platform and recruited a sample of 255 respondents. After removing those who failed attention check questions (n = 5, 0.2%) we had a final sample of 250 respondents (66.4% female, 32.4% male, 1.2% other/prefer not to say; Age<sub>Mean</sub> = 41.4, s.d. = 13.2). In terms of our sample’s engagement with AMSR: 74% were aware of ASMR, 68% have viewed an ASMR video, 32% classify themselves as experiencing ASMR, and 26% report having experienced a physiological response to ASMR.

### 3.3.2. Results and discussion

**Manipulation check.** We used the same manipulation check, asking respondents to evaluate the video they viewed in terms of its alignment with ASMR characteristics, using a 7-point scale ranging from “definitely not an ASMR ad” to “definitely an ASMR ad”. A one-way ANOVA was used to test the manipulation, with those in the ASMR condition significantly more likely to classify the ad as an ASMR ad (ASMR ad: M = 3.58, SD = 1.31, Non-ASMR ad: M = 2.35, SD = 1.24, F(1, 248) = 58.11, p < 0.001). Again, results confirmed the auditory manipulation.

**Main effects.** We use a one-way ANOVA to test our predicted main effects of the presence (vs absence) of ASMR in an ad on attitude toward the ad (H<sub>1</sub>) and attitude toward the brand (H<sub>2</sub>). Results, presented in Fig. 4, show a significant main effect between auditory manipulation (presence of ASMR) and attitude toward the ad (F(1, 248) = 10.19, p = 0.002). When employing an unknown brand, we also find a significant effect for attitude toward the brand (F(1, 248) = 4.44, p = 0.03). With Study 3, results provide support for H<sub>1</sub> and H<sub>2</sub>.

**Indirect Effects.** Model 6 (Hayes, 2013) is again used to test our predicted indirect (H<sub>3</sub>, H<sub>4</sub>) effects with the coefficients reported being the indirect effects and their bias-corrected, bootstrapped 95% CIs, computed with 5000 resamples using the PROCESS macro (Hayes, 2013). For H<sub>3</sub>, results provide support for a full serial mediation, with a significant positive effect of ASMR ad, ASMR response, and positive emotion on attitude toward the ad (b = 0.12, boot SE = 0.06, CI [0.02, 0.26]). This indicates respondents who experienced a physiological response to the auditory stimuli, in turn lead to a higher emotional response, and subsequently a positive effect on attitude toward the ad. Through this sequence, advertisements featuring ASMR led to higher ad attitude, thus providing support for the serial mediation hypothesis (H<sub>3</sub>).

Similarly, for H<sub>4</sub> results provide support for a full serial mediation with a significant positive effect of ASMR, resulting physiological response, positive emotion, and attitude toward the brand (b = 0.07, boot SE = 0.03, CI [0.01, 0.14]). Again, this indicates that an advertisement featuring ASMR led to a higher level of physiological response, in turn leading to higher positive emotions, and subsequently positive effects on attitude toward the brand. Through this sequence, advertisements featuring ASMR led to higher brand attitude, thus providing support for the serial mediation hypothesis (H<sub>4</sub>). Taken together, our results again provide support for H<sub>3</sub> and H<sub>4</sub> with the relationship between AMSR and attitude toward the ad (H<sub>3</sub>) and attitude toward the brand (H<sub>4</sub>) being fully serially mediated through AMSR response and positive emotions.

## 4. General discussion

In this paper we show that ASMR ads are a double-edged sword that can have both negative and positive effects on consumer attitudes, with consumers differ in their response to ASMR advertising. We show that,

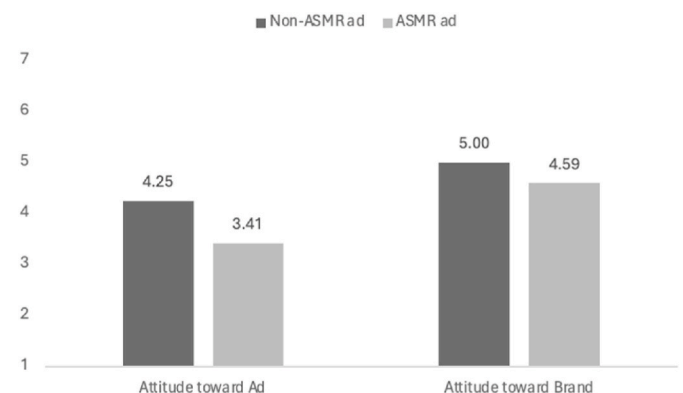


Fig. 4. Effect of auditory manipulation (ASMR) on attitudinal response (Study 3).

when ASMR ads are used on a general population, there are negative effects on consumer response to the ad, a result that echoes studies which show consumers are especially sensitive to auditory stimulation (Doucé and Adams, 2020). However, we also find that for known brands, these negative effects do not translate to decreases in attitude toward the brand. This finding suggests that exposure to a single disliked ad is not enough to negatively impact perceptions of the brand (i.e., Vermeulen and Beukeboom, 2016). However, we find that when a brand is unknown this effect of reversed and consumers react negatively to both the ad and the brand. This suggests that ASMR may not be a strategically aligned advertising tactic for new and emerging brands with little or no consumer awareness and subsequent brand equity. Importantly, our results also show that, for a specific group of consumers, positive effects on ad and brand attitude do occur for ASMR ads, with these positive effects serially mediated through consumer's physiological response and emotional response. Our results build on prior research in the domain of ASMR (i.e., Sands et al., 2022), by providing a more nuanced view of the effects of ASMR as a novel advertising stimulus.

#### 4.1. Theoretical implications

Our insights help to develop emerging theoretical understanding of consumer response to ASMR, as well as inform existing advertising literature streams. Specifically, our findings provide further insight on the variation that exists among consumers in response to ASMR stimuli. In doing so, we extend prior work that supports the notion that ASMR trait and state lie on a spectrum with idiosyncratic potential for ASMR induction (Swart et al., 2022). We show that people also respond differently to ASMR and that these responses flow on to impact behavioral outcomes.

Further, our findings provide evidence that components of attitude, specifically ad and brand attitude, operate differently. Our studies show that ad and brand attitudes operate differently, which is a finding in line with prior research showing that when consumers have negative attitude toward an ad, positive brand effects can still occur (Donthu, 1998; Prasad, 1976). For instance, research shows that shocking (Bennett, 1996) or blatantly disclosed (Boerman et al., 2021) advertising can still be remembered and thus effective even though it is perceived as annoying.

More broadly, our findings add to ongoing conversations about creativity in advertising. Advertising creativity is a multidimensional construct, involving originality and appropriateness (Rosengren et al., 2020) which can be leveraged in a variety of different contexts (Demsar et al., 2022). Originality is the main element of creativity and is typically characterized by novelty, uniqueness, or unexpectedness (Rosengren et al., 2020). Our results show that novel auditory stimulus, such as AMSR, can be leveraged to influence consumer reactions.

#### 4.2. Managerial implications

Our research provides important implications for brands considering the use of ASMR in advertising. First, we show that deploying ASMR in ads can be an effective technique. This echoes findings from a recent campaign by IKEA which reported around 5% increase sales, both in store and online, during their ASMR-focused advertising period (De Kerpel, Van Kerckhove, & Tessitore, 2024). This evidence underscores the potential effectiveness of ASMR elements in enhancing consumer engagement and sales outcomes. Moreover, we provide strategic recommendations for advertisers considering ASMR in their campaigns and show that at a basic level voice-over whispering can be a mechanism by which to activate ASMR reactions in advertising. This build on prior research that suggest incorporating key ASMR elements such as whispering, nature sounds, and visually soothing landscapes, can enhance viewer engagement and relaxation, leading to better ad reception (Suci et al., 2023).

We also provide important implications in terms of 'who' AMSR ads

can impact. Our research was conducted on a broad-based sample of the general population, rather than a sample of respondents who are known to be favorably disposed toward ASMR. This means that our results reflect general consumer perceptions, rather than a more niche view. To this end, this study provides brand managers and advertisers with guidance as to how different segments of general consumers might react to ASMR ads. While our findings show that consumers who have a physiological response to ASMR are positively predisposed to such ads, we also show that general consumer response to ASMR ads is negative. Importantly, advertisers should consider the purpose of their advertising campaign. It may be the case that ASMR ads could be used initially to increase brand awareness via enhanced recall (c.f., Sands et al., 2022). However, for consumers to have positive attitudes toward the brand in the long run, perhaps ASMR ads are not the best approach, especially if an advertiser is striving to influence brand attitude.

Further, it is important for managers to consider the manner in which ASMR is used. Prior research suggests that in the context of creativity, appropriateness is an important consideration. Appropriateness refers to the extent to which an ad is perceived as relevant, useful, or aligned to the brand or advertising message (Rosengren et al., 2020). While we do not measure perceived appropriateness in this study, we believe it is an important consideration as originality and appropriateness can often misalign, meaning that it is possible ASMR in ads may seem not seem appropriate in some contexts.

One way for managers to address this is through developing a targeted strategy for ASMR ads. On the one hand advertisers could adopt a broad strategy and wide targeting, but need to recognize that this approach may put some people off. Hence it may be necessary to limit the amount of ASMR in an ad or even provide some sort of content warning so those who extremely dislike ASMR can opt-out. In contrast, a more targeted approach could be adopted whereby ASMR ads are provided on-demand or, as technology advanced, there may be an ability to allows users to choose the version of an ad they want to experience.

#### 4.3. Limitations and future directions

Despite the opportunities this research identifies for ASMR advertising, there are important limitations and subsequent future opportunities that should be considered. First, we study a limited set of ads and there may be important contextual or placement situations our research does not consider. For instance, there are a variety of ad formats (length) and placement locations (online, social, TVC) which may impact consumer responses. Future research should test the likely boundary conditions that limit or enhance ASMR's effectiveness – specifically, regarding the integration of ASMR into short versus long format ads. Some examples of ASMR ads are extremely long, such as IKEA's "Oddly Ikea" which is a 25 minute long 'ad'. Such research might also consider the ways in which ASMR ads play a role in the formation and reinforcement of a shared consumer identity (i.e., Sands and Beverland, 2011).

Second, while we test effects in both hedonic and utilitarian product categories, it is likely that ASMR in ads will be perceived as more or less relevant, useful, or aligned for different brands and categories. In practice, a diverse range of brands have drawn on ASMR in ads including Zippo, KFC, Apple, and Michelob. Future research should consider the diverse ways in which ASMR can be integrated by brands. For instance, Fuze Tea integrated ASMR into physical environments with consumers invited into a space that mixed relaxing aroma and calming ASMR sounds that bring Fuze Tea 'taste' to life. This could be beneficial to brands given that curated physical environments can inspire consumers to engage indirect advertising on behalf of the brand (Campbell et al., 2022). Another potential idea to improve response might be to communicate the expense involved in creating an ASMR ad. Research shows that consumers respond more positively to advertising when they believe it was expensive to create (Modig et al., 2014).

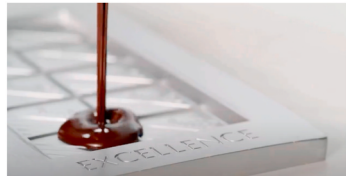


A third limitation of our research relates to our experimental design.

First, in terms of the experimental stimuli we employed which were limited in that they manipulated ASMR by only one auditory cue, whispering. While whispering is a relatively common elements in ASMR, the inclusion of other elements (i.e., tapping, crisp sounds, etc.) might result in even more pronounced effects. Second, while our experimental design included distinct conditions wherein participants were exposed to advertisements that either contained ASMR elements or did not. It is not possible to completely isolate the impact of ASMR from all possible external influences in an online setting. And finally, in terms of the outcomes we investigate. It is important to note that while attitude is important, it does not always equate to purchase or other downstream behaviors. Indeed, ads can enhance recall or attitude but not result in more favorable brand purchase intention (Ang and Low, 2000). In essence, there are a range of possible campaign goals (awareness, conversion, retention) and it will be important to investigate the role of ASMR ads across these contexts.

In sum, ASMR is relatively uncommon in today’s advertising landscape. It will be important to further interrogate the opportunity of ASMR as the practice becomes more commonplace. It is possible that any effects from novelty will be eroded and the negative effects on attitudes may erode if ASMR ads become mainstream. It is even possible that different kinds of ASMR will have different effects on consumer response. Future research could benefit from a segmentation approach to investigate consumer segments more explicitly, their proportions and degree of positive or negative response to ASMR. Such work might aid in delineating the distinct effects on advertising and brand outcomes. Such analyses would indeed add rigor and depth to the understanding of ASMR’s role in consumer behavior.

## Appendix

### Appendix A. Experimental manipulations

Study	Brand	Ad voiceover	Ad details	Ad screenshot
1	Lindt	Prepare your senses. Look at that shine. A clear sign of high quality. Sense the excellence.	23 s; Male voice artist	
2	Ford	Ford Endura Titanium, every part designed to help you unwind. Settle back into the leather accented seats. Indulge in the silence of active noise cancelling technology. Or let the outside in, through the panoramic glass roof. It is not just another SUV.	46 s; Female voice artist	
3	No brand	Every part designed to help you unwind. Settle back into the leather accented seats. Indulge in the silence of active noise cancelling technology. Or let the outside in, through the panoramic glass roof. It is not just another SUV.	29 s; Female voice artist	

## CRediT authorship contribution statement

**Justin Cohen:** Writing – review & editing, Resources, Project administration. **Sean Sands:** Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Colin Campbell:** Writing – original draft, Formal analysis, Data curation, Conceptualization. **Alexis Mavrommatis:** Writing – review & editing, Supervision, Resources, Conceptualization.

## Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used Michael Haenlein’s Academic Editor Custom GPT to a limited extent to improve language and readability. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

## Declaration of competing interest

The authors declare that we have no known conflicts of interest, competing financial interests, or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

Data will be made available on request.

Appendix B. Scales items and reliabilities

Scale	Question and measurement items	Study 1 (Cronbach alpha/ Factor loading)	Study 2 (Cronbach alpha/ Factor loading)	Study 3 (Cronbach alpha/ Factor loading)	
Attitude toward the ad <sup>1,2</sup>	Overall, I think the advertisement was:	0.98	0.98	0.98	
	Bad-Good	0.97	0.97	0.98	
	Unappealing-Appealing	0.98	0.98	0.99	
	Unfavourable-Favorable	0.98	0.98	0.99	
Attitude toward the brand <sup>1,2</sup>	Overall, I think the brand featured in the ad is:	0.94	0.95	0.96	
	Bad-Good	0.93	0.94	0.95	
	Unappealing-Appealing	0.94	0.94	0.97	
	Unfavourable-Favorable	0.96	0.97	0.98	
Emotional response <sup>3,4</sup>	Following the ad, to what extent do you feel:	0.90	0.94	0.94	
	Enthusiastic	0.84	0.88	0.88	
	Joyful	0.86	0.88	0.90	
	Excited	0.76	0.87	0.85	
	Calm	0.85	0.78	0.86	
	Relaxed	0.86	0.82	0.89	
	At ease	0.83	0.83	0.89	
	Connected with others	0.74	0.84	0.80	
	Physiological response <sup>5,6</sup>	Did you experience any tingling sensations during the video? If so, how intense were they?	-	-	-

<sup>1</sup>Adapted from [Rese et al. \(2014\)](#); <sup>2</sup>Measured on a 7-point bipolar scale; <sup>3</sup>Adapted from [Warr et al. \(2014\)](#); <sup>4</sup>Measured on a 7-point Likert scale from 1 = strongly disagree to 7 = strongly agree; <sup>5</sup>Adapted from [Warr et al. \(2014\)](#); <sup>6</sup>Measured on a 7-point Likert scale from 1 = no tingles to 7 = very intense.

References

An, S., Ha, S., 2022. When influencers promote unhealthy products and behaviours: the role of ad disclosures in YouTube eating shows. *Int. J. Advert.* 42 (3), 1–20.

Andersen, J., 2015. Now you've got the shiveries: affect, intimacy, and the ASMR whisper community. *Televis. N. Media* 16 (8), 683–700.

Ang, S.H., Lee, Y.H., Leong, S.M., 2007. The ad creativity cube: conceptualization and initial validation. *J. Acad. Market. Sci.* 35 (2), 220–232.

Ang, S.H., Leong, S.M., Lee, Y.H., Lou, S.L., 2014. Necessary but not sufficient: beyond novelty in advertising creativity. *J. Market. Commun.* 20 (3), 214–230.

Ang, S.H., Low, S.Y., 2000. Exploring the dimensions of ad creativity. *Psychol. Market.* 17 (10), 835–854.

Arias-Bolzmann, L., Chakraborty, G., Mowen, J.C., 2000. Effects of absurdity in advertising: the moderating role of product category attitude and the mediating role of cognitive responses. *J. Advert.* 29 (1), 35–49.

Ballouli, K., Heere, B., 2015. Sonic branding in sport: a model for communicating brand identity through musical fit. *Sport Manag. Rev.* 18 (3), 321–330.

Barratt, E.L., Davis, N.J., 2015. Autonomous sensory meridian response (ASMR): a flow-like mental state. *PeerJ* 3, e851.

Bennett, R., 1996. Effects of horrific fear appeals on public attitudes towards AIDS. *Int. J. Advert.* 15 (3), 183–202.

Boerman, S.C., Tessoro, T., Müller, C.M., 2021. Long-term effects of brand placement disclosure on persuasion knowledge and brand responses. *Int. J. Advert.* 40 (1), 26–48.

Campbell, C., Sands, S., Montecchi, M., Jensen Schau, H., 2022. That's so instagrammable! Understanding how environments generate indirect advertising by cueing consumer-generated content. *J. Advert.* 51 (4), 1–19.

Campbell, M.C., Keller, K.L., 2003. Brand familiarity and advertising repetition effects. *J. Consum. Res.* 30 (2), 292–304.

Chae, H., Baek, M., Jang, H., Sung, S., 2021. Storyscaping in fashion brand using commitment and nostalgia based on ASMR marketing. *J. Bus. Res.* 130, 462–472.

Chen, J., Smith, R.E., 2018. The boundaries for ad creativity: effects of type of divergence and brand processing and responses. *J. Brand Manag.* 25 (6), 561–576.

Cox, D.S., Locander, W.B., 1987. Product novelty: does it moderate the relationship between ad attitudes and brand attitudes? *J. Advert.* 16 (3), 39–44.

Craik, F.I., Tulving, E., 1975. Depth of processing and the retention of words in episodic memory. *J. Exp. Psychol. Gen.* 104 (3), 268.

De Kerpel, L., Van Kerckhove, A., Tessoro, T., 2023. Can you feel the advertisement tonight? The effect of ASMR cues in video advertising on purchase intention. *Int. J. Advert.* 1–30.

Demsar, V., Sands, S., Rosengren, S., Campbell, C., 2022. Ad creativity in a negative context: how a thanking message frame enhances purchase intention in times of crisis. *J. Retailing Consum. Serv.* 64, 102825.

Donthu, N., 1998. A cross-country investigation of recall of and attitude toward comparative advertising. *J. Advert.* 27 (2), 111–122.

Doucé, L., Adams, C., 2020. Sensory overload in a shopping environment: not every sensory modality leads to too much stimulation. *J. Retailing Consum. Serv.* 57, 102154.

Eid, C.M., Hamilton, C., Greer, J.M., 2022. Untangling the tingle: investigating the association between the Autonomous Sensory Meridian Response (ASMR), neuroticism, and trait & state anxiety. *PLoS One* 17 (2), e0262668.

Esteky, S., 2021. Chirping birds and barking dogs: the interactive effect of ambient sensory cue source and valence on consumers' choice of natural products. *J. Retailing Consum. Serv.* 61, 102513.

Ferguson, D., 2018. Whisper it. ASMR videos are the quiet revolution going global. *Guardian*. October 6. <https://www.theguardian.com/lifeandstyle/2018/oct/06/sensory-videos-relaxation>.

Gustafsson, C., 2015. Sonic branding: a consumer-oriented literature review. *J. Brand Manag.* 22, 20–37.

Hayes, Andrew, 2013. Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach. The Guilford Press, New York.

Kellaris, J.J., Cox, A.D., Cox, D., 1993. The effect of background music on ad processing: a contingency explanation. *J. Market.* 57 (4), 114–125.

Ketron, S., Spears, N., 2019. Sounds like a heuristic! Investigating the effect of sound-symbolic correspondences between store names and sizes on consumer willingness-to-pay. *J. Retailing Consum. Serv.* 51, 285–292.

Lee, S.S., Chen, H., 2023. Can we turn ASMR experiences into advertising? College-age consumers' perceptions of ASMR contents and advertisements. *J. Advert. Res.* 63 (4), 335–348.

Lee, H.N., Jung, S.Y., 2019. Study on the techniques of online ASMR advertisements-based on audiovisual representation and brand identity. *Journal of the Korean Society Design Culture* 25 (2), 495–504.

Lee, M.S., Septianto, F., Frethey-Bentham, C., Gao, E., 2020. Condoms and bananas: shock advertising explained through congruence theory. *J. Retailing Consum. Serv.* 57, 102228.

Lehnert, K., Till, B.D., Carlson, B.D., 2013. Advertising creativity and repetition: recall, wearout and wearin effects. *Int. J. Advert.* 32 (2), 211–231.

Lichtlé, M.C., 2007. The effect of an advertisement's colour on emotions evoked by attitude towards the ad: the moderating role of the optimal stimulation level. *Int. J. Advert.* 26 (1), 37–62.

Lohaus, T., Yükseskdag, S., Bellingrath, S., Thoma, P., 2023. The effects of Autonomous Sensory Meridian Response (ASMR) videos versus walking tour videos on ASMR experience, positive affect and state relaxation. *PLoS One* 18 (1), e0277990.

Lutz, Richard, 1985. Affective and cognitive antecedents of attitude toward the ad: a conceptual framework. In: Alwitt, Linda, Mitchell, Andrew (Eds.), Vol. 1 of *Psychological Processes and Advertising Effects*. Lawrence Erlbaum Associates, Hillsdale.

MacInnis, D.J., Jaworski, B.J., 1989. Information processing from advertisements: toward an integrative framework. *J. Market.* 53 (4), 1–23.

MacInnis, D.J., Moorman, C., Jaworski, B.J., 1991. Enhancing and measuring consumers' motivation, opportunity, and ability to process brand information from ads. *J. Market.* 55 (4), 32–53.

Mitchell, A.A., Olson, J.C., 1981. Are product attribute beliefs the only mediator of advertising effects on brand attitude? *J. Market. Res.* 18 (3), 318–332.

Modig, E., Dahlén, M., Colliander, J., 2014. Consumer-perceived signals of 'creative' versus 'efficient' advertising: investigating the roles of expense and effort. *Int. J. Advert.* 33 (1), 137–154.

Poerio, G.L., Blakey, E., Hostler, T.J., Veltri, T., 2018. More than a feeling: autonomous sensory meridian response (ASMR) is characterized by reliable changes in affect and physiology. *PLoS One* 13 (6), e0196645.



- Poerio, G.L., Mank, S., Hostler, T.J., 2022. The awesome as well as the awful: heightened sensory sensitivity predicts the presence and intensity of Autonomous Sensory Meridian Response (ASMR). *J. Res. Pers.* 97, 104183.
- Poerio, G., Ueda, M., Kondo, H.M., 2022. Similar but different: high prevalence of synesthesia in autonomous sensory meridian response (ASMR). *Front. Psychol.* 29 (September), 990565.
- Poushneh, A., 2021. Impact of auditory sense on trust and brand affect through auditory social interaction and control. *J. Retailing Consum. Serv.* 58, 102281.
- Prasad, V.K., 1976. Communications-effectiveness of comparative advertising: a laboratory analysis. *J. Market. Res.* 13 (2), 128–137.
- Reise, A., Schreiber, S., Baier, D., 2014. Technology acceptance modeling of augmented reality at the point of sale: can surveys be replaced by an analysis of online reviews? *J. Retailing Consum. Serv.* 21 (5), 869–876.
- Roberts, N., Beath, A., Boag, S., 2020. A mixed-methods examination of autonomous sensory meridian response: comparison to frisson. *Conscious. Cognit.* 86, 103046.
- Rosengren, S., Eisend, M., Koslow, S., Dahlen, M., 2020. A meta-analysis of when and how advertising creativity works. *J. Market.* 84 (6), 39–56.
- Rouw, R., Erfanian, M., 2018. A large-scale study of misophonia. *J. Clin. Psychol.* 74 (3), 453–479.
- Sands, S., Beverland, M., 2011. Kiwiana: national identity and consumption. In: Bradshaw, A., Hackley, C., Maclaran, P., Duluth, M.N. (Eds.), *European Advances in Consumer Research*, Vol. 9. Association for Consumer Research, p. 491.x.
- Sands, S., Campbell, C., Mavrommatis, A., Kadomskaia, V., 2022. Can a whisper boost recall of video advertisements? *J. Advert. Res.* 62 (3), 287–296.
- Simola, J., Kuisma, J., Kaakinen, J.K., 2020. Attention, memory and preference for direct and indirect print advertisements. *J. Bus. Res.* 111, 249–261.
- Spence, C., 2020. Extraordinary emotional responses elicited by auditory stimuli linked to the consumption of food and drink. *Acoust. Sci. Technol.* 41 (1), 28–36.
- Suci, A., Wang, H.C., Doong, H.S., 2023. Relax Your Fear—the role of autonomous sensory meridian response (ASMR) in green advertising. *J. Retailing Consum. Serv.* 75, 103479.
- Srinivas, M., 2023. Top & Most Popular Searched Topics on YouTube 2023. <https://nextgrowthlabs.com/want-to-know-what-people-are-searching-on-youtube-globally/>.
- Swart, T.R., Bowling, N.C., Banissy, M.J., 2022. ASMR-experience questionnaire (AEQ): a data-driven step towards accurately classifying ASMR responders. *Br. J. Psychol.* 113 (1), 68–83.
- Taylor, C., 2022. Angi's 'Oddly Satisfying' ad campaign uses ASMR to reinforce positioning. *Forbes*. May 14. <https://www.forbes.com/sites/charlestaylor/2022/05/14/angis-oddly-satisfying-ad-campaign-uses-asmr-to-reinforce-positioning/?sh=33dd498b4927>.
- Till, B.D., Baack, D.W., 2005. Recall and persuasion: does creative advertising matter? *J. Advert.* 34 (3), 47–57.
- Vermeulen, I., Beukeboom, C.J., 2016. Effects of music in advertising: three experiments replicating single-exposure musical conditioning of consumer choice (Gorn 1982) in an individual setting. *J. Advert.* 45 (1), 53–61.
- Warr, P., Bindl, U.K., Parker, S.K., Inceoglu, I., 2014. Four-quadrant investigation of job-related affects and behaviors. *Eur. J. Work. Organ. Psychol.* 23 (3), 342–363.
- Wolin, L.D., Korgaonkar, P., Lund, D., 2002. Beliefs, attitudes and behavior towards web advertising. *Int. J. Advert.* 21 (1), 87–113.
- Xu, X.Y., Gao, Y.X., Jia, Q.D., 2023. The role of social commerce for enhancing consumers' involvement in the cross-border product: evidence from SEM and ANN based on MOA framework. *J. Retailing Consum. Serv.* 71, 103187.
- Yang, S., Carlson, J.R., Chen, S., 2020. How augmented reality affects advertising effectiveness: the mediating effects of curiosity and attention toward the ad. *J. Retailing Consum. Serv.* 54, 102020.
- Yilmaz, C., Eser Telci, E., Bodur, M., Eker İscioglu, T., 2011. Source characteristics and advertising effectiveness: the roles of message processing motivation and product category knowledge. *Int. J. Advert.* 30 (5), 889–914.