

RESEARCH ARTICLE OPEN ACCESS

Minds Versus Codes: Triangulating Neurophysiological and Qualitative Responses to AI-Generated Versus Human-Made Video Advertisements

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Received: 23 September 2025 | **Revised:** 29 June 2026 | **Accepted:** 17 July 2026

Keywords: AI-generated content | consumer perception | digital marketing | emotional engagement | generative AI | human creativity | video advertising

ABSTRACT

This experimental study compares how consumers engage with AI-generated and human-created advertisements, specifically examining patterns of visual attention, emotional and cognitive responses, attitudes toward AI, and whether emotional resonance fosters brand trust or future behavioral intentions. Adopting the lenses of dual-process theory and algorithm aversion theory, this research pinpoints where human-created stories have continuing relevance. In a laboratory experimental setting, EEG and eye tracking are combined with respondents' reflections on their perception of the advertising stimuli. The results indicate that AI-driven content matches and even outperforms human-led advertisements in evoking viewers' emotional responses. Contrary to suppositions that the "unnaturalness" of AI triggers disbelief or purely rational scrutiny, this study's respondents had strong emotional reactions, such as surprise, fascination, and empathy. A key practical takeaway on algorithm aversion is that consumers who doubted AI's capacity for emotional authenticity at the pre-test changed their attitudes after exposure to AI-generated content, underlining that real-world exposure helps to overcome entrenched skepticism.

1 | Introduction

Rapid advances in generative AI are substantially changing the creative landscape (see Ford et al. 2023 and Deryl et al. 2026, for recent reviews), positioning AI as a creator rather than a mere support tool in art, cinema, literature, and digital fashion (Kabalska and Wagner 2025). These developments spark ongoing debates about AI's meaning and impact on human creativity as it increasingly takes over traditionally human-dominated fields (Hattori et al. 2024).

Several studies suggest that even when AI produces objectively better creative results, people often view the output with skepticism (Brüns and Meißner 2024; Pizzi et al. 2025). This hesitation is frequently rooted in cultural beliefs and preconceptions that

associate creativity exclusively with human experience, intuition, and emotional depth. Such views reinforce the idea that human creativity will never be entirely replaced, even as AI continues to improve at tasks (Amabile 2020). A thorough synopsis of research gaps and recommendations for further research, derived from pertinent recent scholarly articles, is presented in Table S1 to the study. A limited number of studies have examined consumer perceptions and emotional responses to AI-created advertisements (e.g., Bakpayev et al. 2022). Additionally, while some research has examined AI in text-based and image-based advertising, few studies have explored its use in video advertising (Brüns and Meißner 2024). Consequently, the research gap addressed in this study is to what extent the AI-generated advertising videos meet the emotional activation benchmarks set by human-generated advertising videos. Consolidating previous research in Table S1

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leads to the proposition that AI leads to negative emotional responses, at least when the AI-based origin of the advertising stimulus is recognized. Furthermore, the implications of this emotional disruption extend directly to brand alignment. Dual-process theory suggests that when consumers engage with a narrative intuitively, they are more likely to internalize the brand's intended identity and messaging. However, if algorithm aversion shifts the viewer into a critical, analytical state, an "authenticity gap" emerges. This gap prevents the emotional resonance necessary for brand trust, raising critical questions about whether AI-generated advertisements can successfully convey a brand's specific desired image. Therefore, our study adopted the lenses of dual-process theory and algorithm aversion theory to examine how well AI-produced video ads inspire emotional bonding in comparison to human capabilities. Two main research questions were formulated:

R1: *How do consumer perceptions of AI-generated video ads differ from their perceptions of human-created ads?*

This question investigates whether consumers interpret and respond differently to advertisements based on their origin, specifically whether they are created by humans or generated by AI. Investigating these differences reveals consumers' potential biases or preferences for one type of ad over another.

R2: *To what extent does consumers' emotional bonding with each type of ad correspond to how the brand wants to be perceived?*

The second question examines how well customers' emotional views of the developed video advertising match the brand's targeted image and messaging. The second research question, therefore, directly addresses the depth of information processing as explained by dual process theory. According to algorithm aversion, emotional reactions substantially differ in their influence on consumer behavior, brand loyalty, and purchasing choices: advertisements that promote emotional bonding boost consumer engagement and enhance perceptions of the brand.

To answer these questions, the next section of this paper consolidates the role of emotions in marketing and psychology, focusing on its importance in the advertising industry as embodied in dual-process theory. Objections against AI in advertising are captured through algorithm aversion theory. Section 3 explains the research process, methodology, and data gathering, and Section 4 presents the research results, discusses the findings, draws conclusions, examines the study's limitations, and offers suggestions for future research.

In terms of the theoretical positioning, this study developed a coherent theoretical framework by explicitly combining dual-process theory and algorithm aversion theory. We recognize the constraint of our limited student sample ($N = 20$); nonetheless, as one of the most recent exploratory studies incorporating electroencephalography (EEG), eye-tracking, surveys, and interviews in this domain, we emphasize establishing methodological viability and producing preliminary insights rather than attaining confirmatory, large-sample generalizability. Therefore, the details on the experimental procedures are reported to ensure full methodological transparency and enable replication of our

multimethod experimental procedures. The novelty of this study arises from applying dual-process theory and algorithm aversion theory to advertising videos, which has never been done before.

This study is clearly positioned as going beyond the exploratory investigation, where the sample size does not permit substantial use of inferential analysis, such as equation modeling (see e.g., Wagner and Grimm 2023). To obtain respondents' reflections on the objective evaluation of the bodily reactions in the advertising videos, we combined the quantitative component with open-ended, semi-structured qualitative interview questions.

2 | Theoretical Framing and Literature Review

2.1 | The Power of Feeling: Emotional Engagement in Advertising

Empirical studies suggest that consumers prioritize affective connections and memorable brand experiences when deciding to make a purchase (Bin 2023; Yousef et al. 2023). Emotional appeals in advertising enhance attention, recall, and product evaluation (Hamelin et al. 2017; Sadeghein et al. 2025). Emotional experiences, whether driven by narratives, music, or visuals, substantially influence brand perception and trust, especially in video advertising, in which affective responses emerge early and powerfully (Chan et al. 2024).

Recent research also highlights the dichotomy of basic versus socially constructed emotions in marketing communication. Basic (or universal) emotions, such as fear and happiness, can evoke instinctive reactions, whereas socially constructed (or culturally conditioned) emotions, such as nostalgia or guilt, enable targeted, demographically tailored strategies (Lteif et al. 2023; Mas et al. 2024; Seegebarth et al. 2019; Tran et al. 2025; van Heijst et al. 2023).

2.2 | Intuitive Versus Elaborated: Dual Process Theory

Dual-process models offer a robust framework for understanding consumer cognition. These models, which distinguish between intuitive and analytical processing, are crucial for understanding attention, persuasion, and recall in advertising contexts (Hall and Shaw 2019; Li et al. 2025). The audiovisual stimuli in video ads can elicit both (intuitive) automatic orienting responses and (analytical) active elaborative thinking depending on cue salience and integration (Simmonds et al. 2020). This dual-coding potential enables video ads to stimulate emotional arousal and memory encoding simultaneously. The elaboration likelihood model (Petty and Cacioppo 1983), a derivative of dual-process theory, provides additional insight into how consumers evaluate persuasive messages under varying levels of motivation and cognitive capacity. Evidence suggests that emotionally engaging ads may influence both peripheral and central routes of processing, enhancing both immediate attention and long-term attitudinal shifts (Mardhatilah et al. 2023; Shahab et al. 2021).

In video advertising, capturing consumer attention remains one of the primary challenges. Simmonds et al. (2020) proposed a

dual-process model that shows that combining audio-visual cues effectively engages consumers by eliciting two types of attention: automatic (intuitive) and active (reflective). The authors note that visual stimuli—including sudden changes in a video, such as cuts or the appearance of brand logos—trigger automatic attention. This is characterized by an involuntary reaction called the orienting response, whereby consumers experience a decelerated heart rate when presented with surprising or significant visual changes. In contrast, active attention relies more on deep cognitive processing, particularly through the integration of auditory and visual cues. The integration of the dual process model with algorithm aversion in the context of AI-created advertising stimuli is given below in Table 1.

2.3 | Artificial Intelligence in Advertising

The integration of AI in content creation has revolutionized the advertising landscape. Generative AI, capable of producing ad visuals, narratives, and entire videos, is increasingly recognized as a creative partner rather than a mere automation tool. When brands utilize generative AI for content, however, consumers may perceive them as inauthentic and less trustworthy, which can impact overall brand loyalty and engagement (Brüns and Meißner 2024). Even though early critiques questioned the emotional depth and authenticity of AI-generated content (e.g., Campbell et al. 2022; Kreps et al. 2022), recent studies suggest that under certain conditions, these outputs can rival or even exceed human-created materials in emotional impact and visual appeal (e.g., Sands et al. 2024).

However, consumer perception of AI-generated content often hinges on trust, authenticity, and emotional credibility. Arango et al. (2023) found that the use of AI avatars in emotionally sensitive advertisements, such as charitable campaigns, may reduce empathy and trust, especially when viewers detect the synthetic nature of the messenger. Moreover, algorithmic personalization and content creation raise questions about the balance between efficiency and individuality. Although AI enables hyper-personalization, concerns persist around content homogenization and diminished brand distinctiveness (Osadchaya et al. 2024). When AI-generated material lacks context sensitivity or emotional nuance, its perceived authenticity suffers.

2.4 | Resisting the Machine: Algorithm Aversion Theory

Machines are seen as intelligent, but “they do not love or hate” (Bakpayev et al. 2022, p. 91), which is why consumers view AI as intellectually capable but do not endow it with emotional qualities. Consequently, despite advances in AI creativity, algorithm aversion remains a key barrier to consumer acceptance. Consumers tend to devalue AI-generated creative outputs, particularly in emotionally charged or subjective domains, due to perceived deficits in empathy, intuition, and authenticity (Hattori et al. 2024). Algorithm aversion can lead to biased evaluations, even when AI outputs objectively outperform human equivalents. However, this aversion is not static;

exposure to high-quality AI-generated content reduces skepticism and increases openness, especially when emotional and aesthetic expectations are exceeded (Brüns and Meißner 2024).

Therefore, people's attitudes (aversion or appreciation; see Turel and Kalhan 2023) toward algorithms vary based on the type of task. When functions are objective and clearly defined—such as in numerical analysis or data processing—people are more likely to trust and appreciate AI outcomes, because they see AI as infallible when dealing with structured information or statistical data. Conversely, subjective tasks that involve interpretation, creativity, or aesthetic judgment tend to generate algorithm aversion and the belief that meaningful results can be achieved only with human input. These attitudes are influenced by individual factors such as familiarity with AI technology and emotional attitudes toward it (Brüns and Meißner 2024).

This theory is particularly applicable in fields such as marketing. For example, AI tools that generate content may make consumers feel the output lacks authenticity (Amabile 2020; Bakpayev et al. 2022), which can lead to lower emotional engagement, as AI-generated content often appears impersonal or overly standardized. Additionally, even minor errors in algorithmic decision-making can significantly impact consumer trust and increase aversion to algorithms, raising doubts about AI's ability to handle complex interpretative tasks.

2.5 | Emotions by (AI)Design: Outline of Key Insights

This study examines whether AI-generated advertisements can effectively elicit emotional and cognitive engagement and determines how awareness of ad origin has an impact on consumer perceptions. The literature yields three core insights for this study, as described below.

Emotional perspective in advertising: Emotional responses to advertisements—both intuitive and reflective—play a central role in shaping brand perception and recall.

Cognitive perspective in advertising: Dual-process models, including the elaboration likelihood model, provide a strong theoretical foundation for understanding how consumers respond to advertising stimuli, particularly in video format.

AI perspective in advertising: AI's role in advertising is evolving rapidly, but consumer trust and emotional resonance remain critical challenges, influenced by algorithm aversion and doubts regarding authenticity.

While previous research has examined dual-process theory in video advertising and algorithm aversion theory in isolation, this study offers a novel theoretical synthesis by positing algorithm aversion theory as a moderator of cognitive processing (Table 1). We propose that algorithm aversion theory functions as a “cognitive disruption” mechanism, an involuntary shift from intuitive processing to analytical evaluation, which prevents consumers from engaging with AI-generated content. Figure 1 consolidates the conceptual model integrating the algorithm aversion theory into the dual processing model.

TABLE 1 | Synopsis of cognitive and emotional processing of AI video ads.

Theoretical concept	Core mechanism	Relevance for (Video) advertising	Critical implication for AI-generated content
Dual-process Theory & Elaboration Likelihood Model (Smith and DeCoster (2000); Kahneman and Frederick (2002); Petty and Cacioppo (1983))	Distinguishes between intuitive (automatic) and analytical (reflective) information processing in response to advertising stimuli.	Integrated audio-visuals facilitate active elaboration and emotional memory encoding, while visual cues (e.g., cuts, logos) precipitate automatic “orienting responses.”	AI-generated ads are hypothesized to trigger cognitive scrutiny rather than emotional immersion. Viewers may focus on the <i>mechanics</i> of the generation rather than the narrative, processing the content as “cold” information rather than an emotional experience.
Algorithm Aversion Theory (Burton et al. (2020); Hattori et al. (2024))	The reluctance of human decision-makers to rely on algorithms (such as AI outputs), which are superior but imperfect.	Creativeness and emotional depth are frequently associated by viewers exclusively with human intuition and experience, as they perceive AI as being incapable of “loving or hating.”	Aversion acts as a psychological barrier; even if AI video quality is objectively high, awareness of its origin creates skepticism regarding authenticity and empathy. This hesitation is specific to creative domains, unlike objective tasks where AI is often “appreciated.”
Emotional Engagement (Chan-Olmsted and Wolter (2018))	Affective connections drive brand recall and purchase decisions, relying on authenticity and trust.	Narratives, music, and visuals are employed in video advertisements to establish subconscious trust and bonding.	The “Authenticity Gap”: AI content is often perceived as inauthentic or distinctively “synthetic.” If the emotional nuance is lacking, the ad fails to bond, potentially damaging brand loyalty rather than enhancing it.
Cognitive brake (Rejer and Jankowski (2017); Riedel et al. (2024))	The introduction of a specific cue interrupts automatic, heuristic processing, forcing a shift to deliberate, analytical evaluation.	Video advertisements rely on continuous narrative immersion; interrupting this flow reduces emotional bonding.	The mere awareness of AI origin acts as an interrupter, forcing viewers out of narrative transportation and into a state of critical scrutiny regarding the ad’s mechanical construction.
Source-origin gatekeeping (Gross and Feldman Barrett (2011); Kirk and Givi (2025))	The cognitive process where the perceived origin of a message (human vs. machine) acts as a preliminary filter for evaluating its authenticity and trustworthiness.	Consumers evaluate emotional appeals based on the perceived empathy and genuine intent of the creator.	Because AI is stereotyped as lacking human emotional capacity, this gatekeeping mechanism blocks affective resonance, triggering algorithm aversion even if the visual quality is high.
Peripheral pre-emption effect (Pace-Schott et al. (2019); Kauvar et al. (2025))	Strong sensory stimuli trigger obligatory, immediate emotional and physiological responses before higher-order cognitive regulation can intervene.	High-fidelity audio-visual cues bypass cognitive defenses, creating instant visceral engagement.	Exceptionally high-quality AI visuals trigger an automatic orienting response that occurs so rapidly it delays the “cognitive brake,” allowing an emotional bond to form before origin-skepticism sets in.

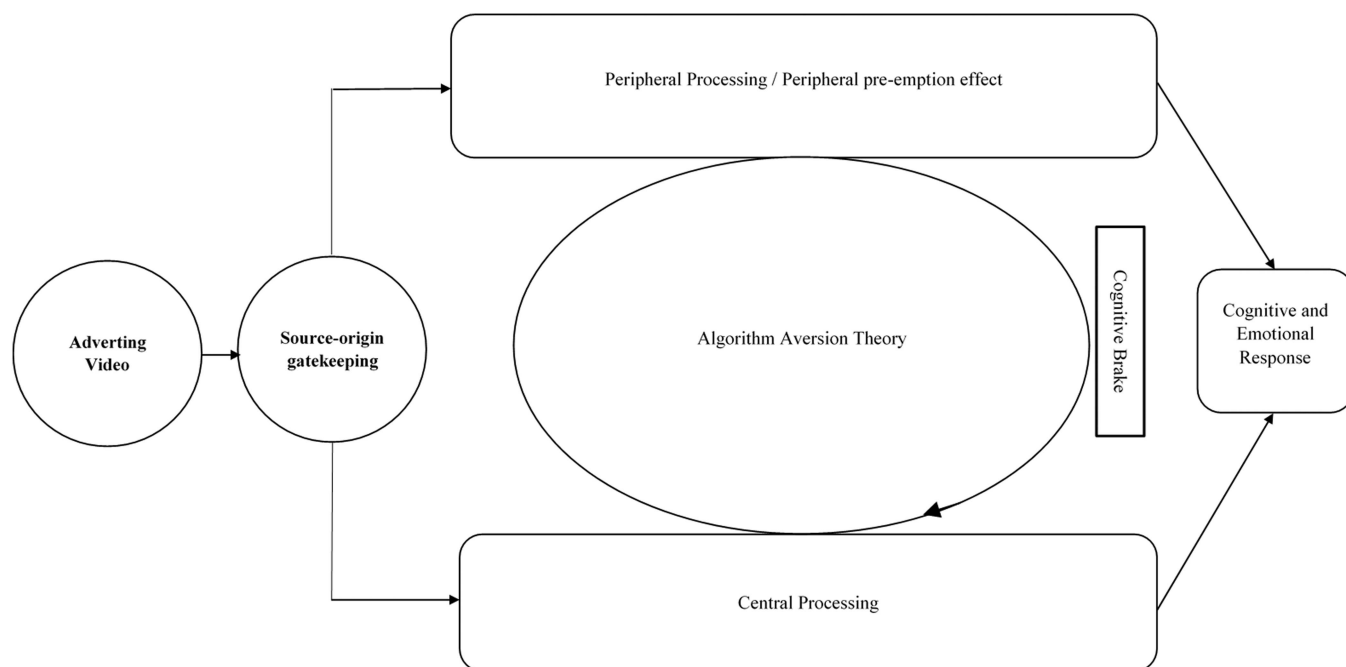


FIGURE 1 | Consolidation of the explanatory framework of this study.

High-quality stimuli elicit an automatic “orienting response” (a subconscious, physiological focus on novel sensory input), which is favourable to subsequent emotional bonding. However, we argue that awareness of AI origin triggers skepticism, which forces the viewer out of their intuitive state and into a critical, high-elaboration state. This theoretical framing extends existing literature with defining this state by cognitive scrutiny (a critical, sceptical mindset) replacing emotional immersion (the state of being psychologically absorbed in a narrative), which effectively terminates affective bonding and, consequently, brand trust.

3 | Research Model

3.1 | Research Concept and Propositions

This study proposes a theoretical model where algorithm aversion acts as a moderator of dual-process cognitive pathways. We propose that the awareness of AI authorship disrupts the standard emotional processing of video advertisements, shifting the viewer from an intuitive state to a skeptical, analytical state (Turel and Kalhan 2023).

Proposition 1. *AI-generated video advertising stimulates cognitive rather than emotional processing.*

Current literature establishes that effective video advertising typically relies on the “orienting response,” an automatic, intuitive reaction to visual and auditory cues (Hamelin et al. 2017). However, we propose that the perception of AI authorship disrupts this process. Because AI is often perceived as mechanical rather than emotional, the awareness of AI origin acts as a “cognitive prime” that forces the viewer into a high-elaboration state. In this state, consumers scrutinize the content’s validity rather than immersing themselves in its narrative, analyzing the “how” rather than the feeling of the “what” of the story (Huang 1997).

Proposition 2. *Algorithm aversion moderates the relationship between ad exposure and emotional bonding by introducing a “validity check” that suppresses the automatic orienting response.*

While algorithm appreciation exists for objective tasks, algorithm aversion theory suggests a penalty for AI in subjective, creative domains (Kaufmann 2021). We propose that this aversion functions as a psychological barrier that actively inhibits emotional bonding. Even when AI-generated content is contextually identical to human-made content, the viewer’s skepticism regarding the AI’s capacity for empathy creates a validity gap. This gap prevents the integration of audiovisual cues into a coherent emotional experience, causing viewers to instinctively disregard the emotional depth of the ad.

Proposition 3. *Emotional involvement strongly influences ad and brand perception.*

Emotional resonance is a critical antecedent to positive brand perception and consumer behavior (Lteif et al. 2023). We posit that because the AI origin triggers the analytical processing route and activates the affective barrier of aversion, the necessary condition for brand bonding (emotional immersion) is unfulfilled. Consequently, brands utilizing AI-generated video ads may face a deficit in consumer engagement, not due to a low level of quality, but due to the failure to bypass the consumer’s cognitive defenses (Arango et al. 2023).

3.2 | The Experiment

This experimental study compared consumer perception of AI-generated versus human-generated video advertisements, focusing on emotional engagement and the moderating role of

advertising origin awareness. Based on dual-process theory and algorithm aversion theory, the study hypothesized:

AI-created ads elicit more cognitive than emotional processing (P1) and are less emotionally engaging due to algorithm aversion (P2). Emotional engagement significantly influences brand perception (P3).

A fictional brand ('TruePath Career Services') was created to reduce brand familiarity and loyalty confounders and isolate ad origin. Two videos—one AI-generated and one human-produced—were created using identical scripts, music, slogans, and narrative structure, ensuring comparability. Human actors reenacted the same scenes in the human-made version; Hailuo AI Video Generator generated the AI version. Both were edited using VN Video Editor and audio-recorded via Audacity.

The study's demographic population comprised university students considering career options; hence, the TruePath Career Services brand was created to meet the research purpose. The brand wanted to motivate and help young people who are looking for work. A logo was created using Ideogram, a free AI tool, and merged at the end of the advertisement to increase brand recognition and create a consistent narrative. Based on the dual-process paradigm, the ads used a well-articulated storyline to elicit intuitive and analytical emotional responses, representing peripheral processing (automatic and emotional thinking) and central or elaborated processing (rational and reflective thinking).

In the story, four characters fall to social pressure before embracing their natural selves and pursuing their passions in the second half of the film, representing the brand's objective to promote individuality over perfection among young people. The advertising employed voiceovers, written slogans, and dramatic sceneries and music to provoke emotions and reinforce the brand's message. Musically, "Arrival of the Birds," by The Cinematic Orchestra, was chosen for its uplifting and stirring effect.

To maintain experimental control, the AI- and human-produced videos were standardized across narrative, music, and composition. The human version featured university theatrical performers recreating the AI-generated scenes to ensure the only meaningful variable was the method of production. Crucially, participants were only informed of the video's AI origin after the viewing session. This design choice was intended to prevent "labeling bias," ensuring that the initial emotional engagement (as per dual process theory) was a response to the stimulus itself rather than a reflexive manifestation of algorithm aversion. This allows for a clearer distinction between the content's inherent realism and the participants' subsequent cognitive evaluation of the brand. Emotional elements interact with psychological processing routes and provide a foundation for consumer-brand relationships. Autonomic measures of emotion, such as EEG or facial recognition, offer a more objective view of affective engagement and capture subconscious responses that are not accessible through verbal self-reporting (Hamelin et al. 2017; Kang et al. 2020; Pizzi et al. 2025; Poels and Dewitte 2019).

3.3 | Sample and Data Collection

The study sample size ($N = 20$) was determined based on the exploratory nature of this research, which prioritizes internal validity and high-resolution neurophysiological mapping over large-scale population generalizability. In neuro-experimental advertising research, sample sizes ranging from 15 to 30 are frequently utilized to identify foundational cognitive and emotional patterns (Sefa et al. 2026; Fu et al. 2024).

The demographic (comprised 20 international university students aged 18–34 years; nine males, 11 females, recruited through institutional channels) was selected for their high digital media literacy and likelihood of interaction with AI-generated content. All participants were screened for prior exposure to AI-generated ads to control for bias. The data collection adhered to ethical research standards, and all participants provided informed consent. Ashraf and Merunka (2017) conducted a meta-analysis of over 1400 publications, categorizing the investigations by student sample. In addition to branding, consumer behavior is the most prevalent marketing domain that uses student samples. The findings indicate that while students may lack expertise in certain consuming scenarios, potentially compromising the validity of their replies, choosing stimuli pertinent to them could enhance response validity. We assert that our stimulus set is pertinent to our sample because students are highly familiar with the job search situation.

To ensure methodological rigor, the procedure followed a standardized eight-step protocol designed to isolate the cognitive and emotional drivers of ad perception (see Figure 2 and Appendix A1). The first three stages of the pre-experiment phases establish a baseline for individual affective states using PANAS-SF to ensure subsequent emotional shifts were attributable to the stimuli rather than prior mood. These steps also facilitated the manipulation check for our experiment. The next two stages encapsulate the neurophysiological setup with calibrated EEG and eye-tracking to capture real-time, non-conscious responses, directly addressing P1 (cognitive vs. emotional processing) and P2 (engagement levels). These steps are implemented to answer the first research question of how the human- and AI-generated advertising videos differ by means of their perception. The final three stages relate to exposure and assessment with a facilitated direct comparison of AI and human ads. The post-ad assessment and qualitative interviews were critical for exploring P3, linking immediate emotional reactions to subsequent brand perception, and identifying instances of algorithm aversion. These steps are implemented to answer the second research question about the differences in emotional bonding in the respondents' reflections on the AI origin of video ads.

The pre-survey of approximately 2 min warrants a manipulation check for all participants. They began the experiment by filling out a hard copy of a brief survey that queried advertising experiences, such as frequency of exposure, interest, aspects valued most, and emotional responses related to advertisements; current emotional states, such as mood, relaxation, and focused attention; and finally, experiences with AI-generated advertising content. Testing the PANAS-SF to ensure subsequent

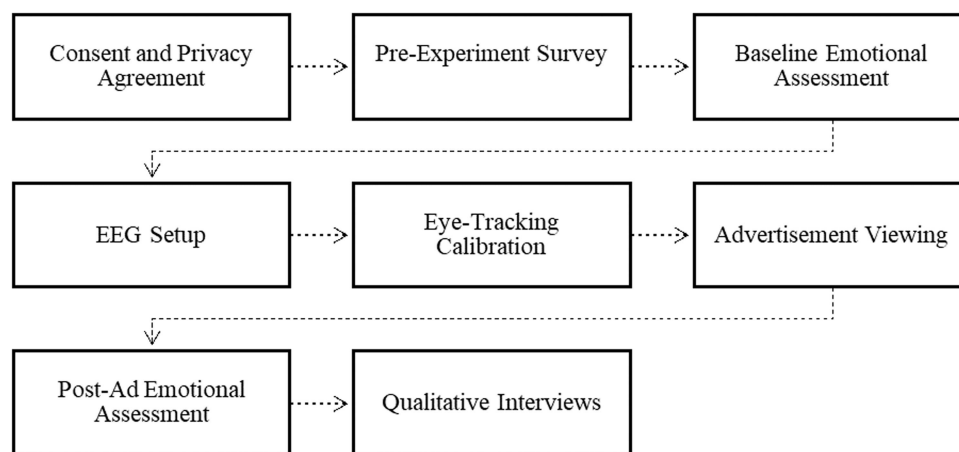


FIGURE 2 | Flow of the research protocol.

TABLE 2 | Definitions and operationalizations of the key constructs.

Construct	Conceptual definition	Operationalization (Data translation)
Attention	The allocation of cognitive resources toward specific stimuli, categorized as either “automatic” (involuntary orienting) or “active” (reflective focus).	Measured via EEG attention scores (0–100 scale) representing cognitive focus and eye-tracking heat maps identifying fixations on Areas of Interest (AOI).
Emotional engagement	The degree of affective connection, immersion, and bonding experienced by the viewer during the narrative.	Measured via EEG engagement metrics (identifying peaks of immersion) and shifts in Positive/Negative Affect via the PANAS-SF scale.
Cognitive processing	The “central route” of persuasion involving analytical scrutiny, elaborative thinking, and validity checks of the content.	EEG stress and attention metrics, which indicate cognitive load, identify this process, as does the qualitative coding of “cognitive reflection” themes, such as thoughts on societal problems (see Matthews et al. 2017).

emotional shifts using the Wilcoxon signed-rank test that allows testing for significance of differences in small samples results in a significant positive shift in the Positive Affect ($p = 0.05$) and Negative Affect ($p < 0.001$), confirming an effective manipulation. To rigorously test for algorithm aversion, a delayed-disclosure manipulation protocol was employed. Participants viewed the stimuli without knowledge of their origin to capture “pure” neurophysiological responses—defined here as the immediate, pre-reflective, and subconscious autonomic reactions (via EEG and eye-tracking) that occur before the viewer’s conscious, analytical labeling of the stimulus as AI-generated. The manipulation (disclosure of the AI authorship) was then introduced during the semi-structured interview. This allowed us to perform a manipulation check on perception by comparing participants’ immediate visceral reactions with their subsequent analytical evaluations after the AI ‘label’ was applied. This procedure effectively isolated whether skepticism was triggered by the content’s “mechanical” nature or the mere awareness of an algorithmic source.

3.4 | Data Analysis

A multi-method analytical approach was employed to assess the participants’ emotional engagement in relation to their

characteristics, prior experiences, and baseline affective states (by synthesizing data from pre-surveys, Positive and Negative Affect (PANAS-SF) scales, and neurophysiological recordings); see Table 2 below.

The analysis was structured around a three-step triangulation process that integrated physiological, behavioral, and qualitative data:

Step 1. Physiological Measurement (EEG): Visualizations of metrics like attention and stress were analyzed to identify emotional peaks (defined as statistically significant spikes in physiological arousal, specifically the EEG engagement metrics, and coinciding with specific narrative turning points in the video stimuli). These peaks represent moments where the stimulus successfully bypassed “cognitive brakes” to elicit a visceral response. This provided objective data for P1, determining whether AI ads triggered higher cognitive load (stress/attention) than emotional engagement. Previous research indicates that buyers tend to depreciate AI-generated artworks, even when these pieces are visually indistinguishable from those created by humans, upon discovering their AI origin. This indicates that resistance arises not from the artwork’s quality but from the belief that AI and artistic creativity are inherently incompatible (Lee et al. 2026).

Step 2. Behavioral Mapping (Eye-Tracking): To quantify visual engagement, we defined specific Areas of Interest (AOIs) prior to the analysis, focusing on key narrative components, such as character faces and central plot-relevant actions. These AOIs enabled the extraction of precise dwell-time metrics for each participant. Additionally, we generated heat maps as a descriptive, post-hoc visualization to illustrate the overall intensity and dispersion of visual attention across the stimulus, providing a qualitative confirmation of the gaze patterns captured within our predefined AOIs.

Areas of Interest (AOI) were linked to EEG peaks to see if specific AI-generated visual elements (e.g., character expressions) inhibited emotional resonance, testing P2. While standard eye-tracking metrics such as average fixation duration and total fixation count are widely used to assess visual search efficiency and stimulus salience, they were not the primary focus of this study. Because our research aims to measure narrative immersion and emotional bonding rather than bottom-up visual scanning behavior, we prioritized metrics that capture thematic dwell-time on central narrative elements and key characters. Metrics such as fixation count were considered less informative for our specific research questions, as they primarily reflect visual exploration rather than the sustained, focused attention required for emotional processing and narrative internalisation.

Step 3. Thematic Synthesis (Qualitative): Interviews were coded using the Gioia et al. (2013) methodology to capture the “why” behind the physiological data. First-order categories (participant statements) were aggregated into second-order themes to explain how ad origin awareness influenced brand loyalty (P3).

For step 3, the coding has been validated by an independent coder who is not a member of the author team. The inter-coder reliability has been assessed using Krippendorff's alpha coefficient of 0.761. This high level of agreement indicates the reliability of the coding process. The structure of the interview questions contributed to this consistency. The questions were designed to elicit specific aspects of participants' perceptions, such as emotional responses, attitudes toward AI, and message interpretation. This focused design supported coders in both identifying similar themes and comparably applying codes,

further enhancing the validity and reliability of the coding process.

4 | Research Results

This study aimed to identify key patterns in emotional engagement within two groups (one viewing the AI- and one viewing human-produced video) based on various types of collected data, to compare the groups, and to identify the similarities and differences between the two groups. Within each group, the analysis followed three stages: (1) individual analysis of each participant based on pre-survey and neurophysiological data (EEG and eye-tracking), (2) group pattern interpretation, and (3) a coding tree based on qualitative responses from post-viewing interviews. The subsequent subsections provide a systematic walk-through of the results of emotional engagement, cognitive processing, and perceptions influenced by algorithm aversion, challenging the above research propositions. We enrich the discussion of quantitative results with qualitative insights and respondents' quotations to provide a precise and granular interpretation of the quantitative results.

4.1 | Human Ad Group Analysis

4.1.1 | Quantitative Data Analysis

4.1.1.1 | EEG Results

EEG metrics revealed that attention scores fluctuated moderately (ranging from 32 to 62) in tandem with narrative plot development, indicating sustained cognitive focus (Table 3). Engagement emerged as the strongest metric, frequently peaking above 70 (and occasionally reaching near-maximum immersion at 95) during emotionally resonant scenes in the ad's second half. Notably, sustained emotional engagement operated independently of continuous cognitive attention for several participants. Despite this strong emotional resonance, physiological excitement and arousal remained generally low across the group, peaking only during isolated, high-intensity scenes.

Physiological responses demonstrated a dynamic relationship with narrative intensity: stress metrics peaked during high-action moments, while relaxation correspondingly decreased during emotionally intense segments. Eye-tracking data

TABLE 3 | Participant comparison of EEG metrics in the human ad group.

Participant	Attention	Engagement	Excitement	Interest	Relaxation	Stress
G1282	50–62	51–78	0–4	38–41	18–22	34–36
N1291	53–61	42–68	0–5	40–45	18–34	30–32
C1091	33–44	70–76	1–13	40–62	22–36	27–40
E1181	37–45	61–78	6–19	42–46	29–38	34–39
M2041	32–42	64–73	19–52	44–60	32–65	30–78
V2052	46–54	60–76	1–16	40–54	25–49	26–43
C0021	38–40	95	4–26	46–62	70	29–65
N1071	39–44	95	7–8	40–48	30–34	24–31
G1071	47	77	1–14	49–53	25	37
Z1317	40–45	71–81	0–2	47–55	29–37	27–31

supported these engagement findings, revealing that the ad successfully directed the majority of visual attention toward central storytelling elements and key characters, with minimal focus on the periphery. A minority of viewers exhibited inconsistent gaze patterns, which likely reflected isolated moments of lower narrative immersion.

The question arises: What about the facets of intended uplifting by means of the stimulus' positive effects?

4.1.1.2 | PANAS Results

Overall, the PANAS results reflect a broadly uplifting effect from the human-generated advertisement, generally increasing positive affect and reducing negative affect across the sample (Figure 3). However, responses varied significantly based on baseline emotional states: participants who began the experiment in a positive mood exhibited the highest emotional improvements, whereas those in tense baseline states showed negligible shifts. Further analysis indicated that less frequent prior exposure to advertisements correlated with higher engagement, suggesting an interaction between novelty and emotional resonance. While the ad successfully fostered moderate engagement without overstimulating viewers, a Mann-Whitney *U*-test indicated no statistically significant difference in Positive ($p = 0.909$) or Negative Affect ($p = 0.160$) between the human- and AI-generated video groups, setting up the need to validate our cognitive processing propositions.

Consistent attention to narrative elements further reinforced the ad's intent, fostering cognitive and emotional engagement in viewers with diverse tastes. These patterns provide a more accurate description of audience reaction, thereby enabling actionable measures to optimize ad strategies and create better engagement and emotional arousal. Nevertheless, the core assumption indicated by previous research results (see Table S1) and reflected in proposition 1 suggests that the AI-generated stimuli are more likely to be processed in the cognitive route than the human-originated ones. This is to be validated by our quantitative component of the experiment.

4.1.2 | Qualitative Data Analysis

The study's findings indicate significant conformity to the research model but also suggest that Proposition 1 must be refined to provide a more accurate presentation of the results. AI video ads, perceived as impersonal and mechanical, elicit more cognitive processing (central route) than emotional responses triggered by the peripheral route. In this group, however, the participants were exposed exclusively to the human-created video advertisement, so the proposition must be revised in light of observed dynamics related to emotional and cognitive engagement (see Table A2). Even the human-original ad, which inherently possessed the emotional depth and creative intention expected from a human creator, did not avoid moments of cognitive engagement due to evoked reflection on real life.

Specifically, the participants first showed intense emotional activation (stimulating peripheral processing) due to multisensory storytelling (visuals, music, and relevant narratives) and engagement with the acting of real people. This usually decreased during moments when a participant faced instances of cognitive reflection, such as thoughts about modern society or how such an emotional story applied to life in general. The advertisement even triggered personal memories in some participants, prompting them to project onto their own lives the problems raised in the video. This finding suggests that, although human-voiced commercials tend to be more emotionally captivating, they are also successful in activating cognitive processing. Figure 4 provides the full coding tree with all three levels according to the Gioia method.

Proposition 2, developed based on algorithm aversion, assumes that ads created by AI are not emotive, as most people remain skeptical and harbor a bias against content produced by algorithms. The findings from the interviews strongly support this proposition (see Table A3). Although the participants in the human ad group recognized the capabilities of AI in making arresting content, they uniformly expressed

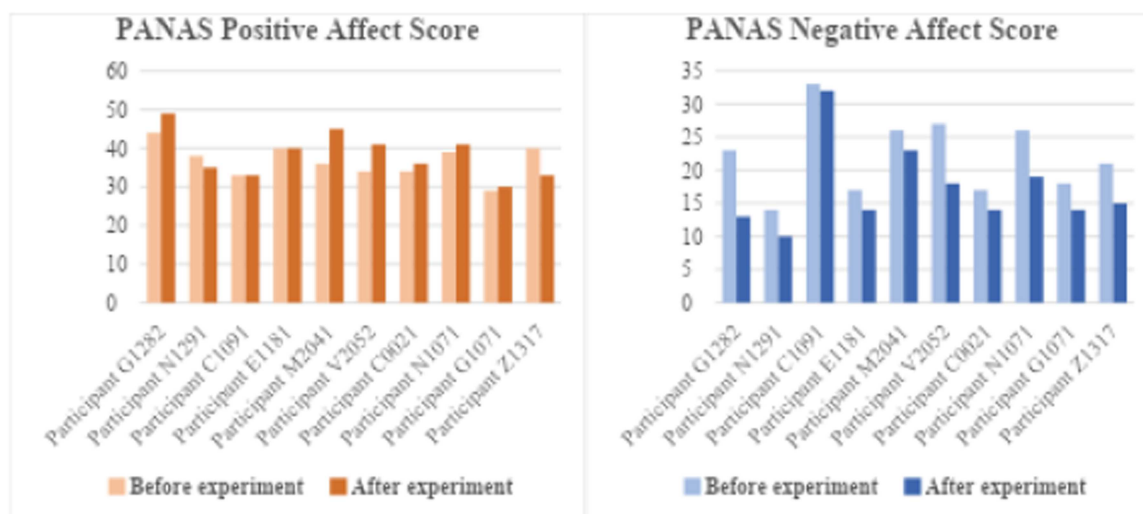


FIGURE 3 | Human ad group positive (L) and negative (R) affect.

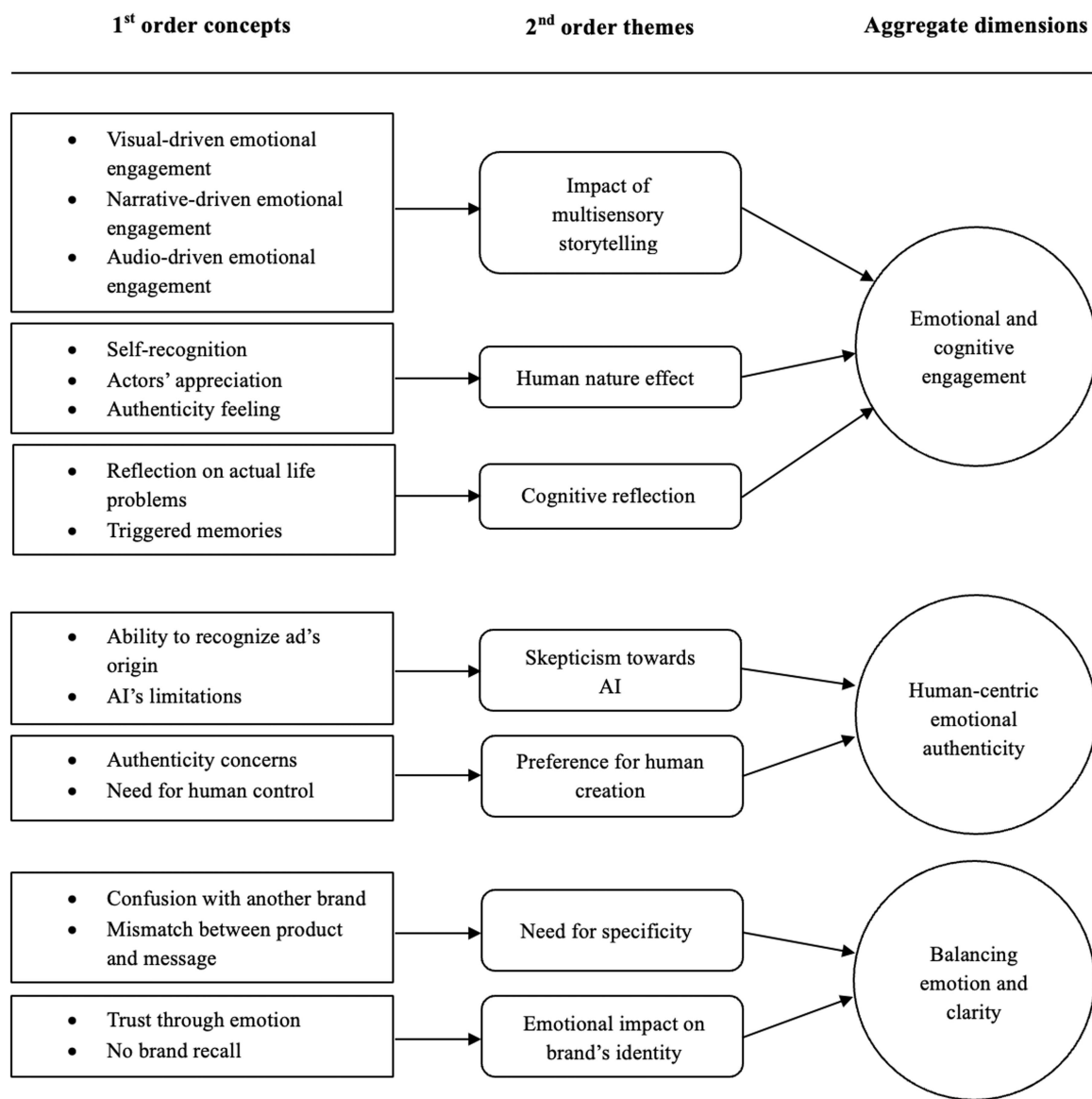


FIGURE 4 | Response to the human-generated advertising coding tree.

doubt that it could replicate the emotional depth and authenticity of human-made advertisements. All the group's participants expressed a preference for human-crafted content, attributing its superiority to the genuine emotions and efforts that human creators invest. Although they recognized improvements in AI technology, the participants regarded AI-generated advertisements as unnatural and less effective at fostering deep emotional connections. Thus, they stated that AI needs to be under human supervision due to certain technical imperfections and a limited understanding of human nature. These insights reflect the cognitive bias that influences how customers perceive AI and highlight the significant influence of emotional authenticity on the perception of advertisements.

Proposition 3 presumes that emotional engagement plays a critical role in consumer perceptions of an advertisement and, consequently, the brand. The results show an interaction between emotional resonance, message clarity, and

brand products (see Table A4). The participants in the human ad group noted that, despite the ad's emotional positivity and its ability to create trust in the brand, the effect was weak, because of the disconnect between the ad's content and its purported career-oriented purpose was a significant factor in diminishing its overall impact. Specifically, the misalignment between the emotional story and the brand's service (career services) diminished the effectiveness of the advertisement in conveying the intended message and prompting action. The participants emphasized that for the brand to be closely associated with the ad, the latter must offer emotional storytelling that connects to clear themes related to careers. Some participants were so emotionally engaged that they did not notice the brand logo behind the actors or thought about a different company, which would not promote a positive brand image. This finding suggests that striking a balance between emotional appeal and message specificity is necessary to maximize the advertisement's influence on consumer perceptions of the brand.

4.2 | AI Group Analysis

4.2.1 | Quantitative Data Analysis

4.2.1.1 | EEG Results

Analysis of EEG data revealed important emotional and cognitive patterns in the participants' responses to an AI-generated advertisement. In general, the participants' level of *attention* was moderate but stable; most individuals maintained a consistent focus during the ad, mainly within the range of low 30 s to mid-40s (Table 4). Indeed, in more visually catchy moments or during narrative transitions, it peaked at 47 and 49, respectively, for participants G1171 and P2048.

Engagement was the most consistent metric, with high levels ranging above 50, peaking at around 95 for participants familiar with AI technologies (V1101 and A2155). This suggests that an emotional or cognitive bond had been established with these participants, with V1101 showing the highest level of engagement, ranging from 92 to 95, corresponding to enthusiasm and emotional responses.

Eye-tracking data revealed that most participants fixated primarily on the main characters and key narrative elements, indicating that the ad was well designed to guide attention toward crucial plot developments. In contrast, nearly half the participants exhibited more erratic eye movements, which may indicate points of confusion or obscurity in either the ad's visual elements or storyline. Moreover, most participants paid attention to details in the background while watching the video. However, some participants' disorganized patterns of eye movements may indicate that certain parts of the ad were unclear or lacked focus.

4.2.1.2 | PANAS Results

PANAS analysis of the AI-generated ad revealed an overall elevating effect, with the majority of participants reporting an increase in positive affect and a general decrease in negative affect post-exposure (Figure 5). While the AI ad successfully alleviated negative emotions, individual variations were present; a minority of participants exhibited decreased or stagnant

TABLE 4 | Participant comparison of EEG metrics in the AI ad group.

Participant	Attention	Engagement	Excitement	Interest	Relaxation	Stress
P2048	43–49	56–86	1–16	44–50	20–50	24–38
M1240	29–43	55–62	0–35	37–40	24–53	28–35
M1121	35–43	48–77	5–14	35–73	24–43	27–37
A1261	28–35	69–84	1–40	47–62	39–68	42–93
A2129	36–44	45–67	0–52	40–52	26–61	33–73
P1101	35–39	70–78	12–34	58–60	25–26	37–61
F1210	27–41	70–86	5–19	47–60	27–31	50–85
V1101	24–39	92–95	10–32	42–85	28–60	40–99
G1171	40–47	69–78	4–21	45–48	29–33	24–38
A2155	37–43	86–95	10–22	35–66	27–35	25–83

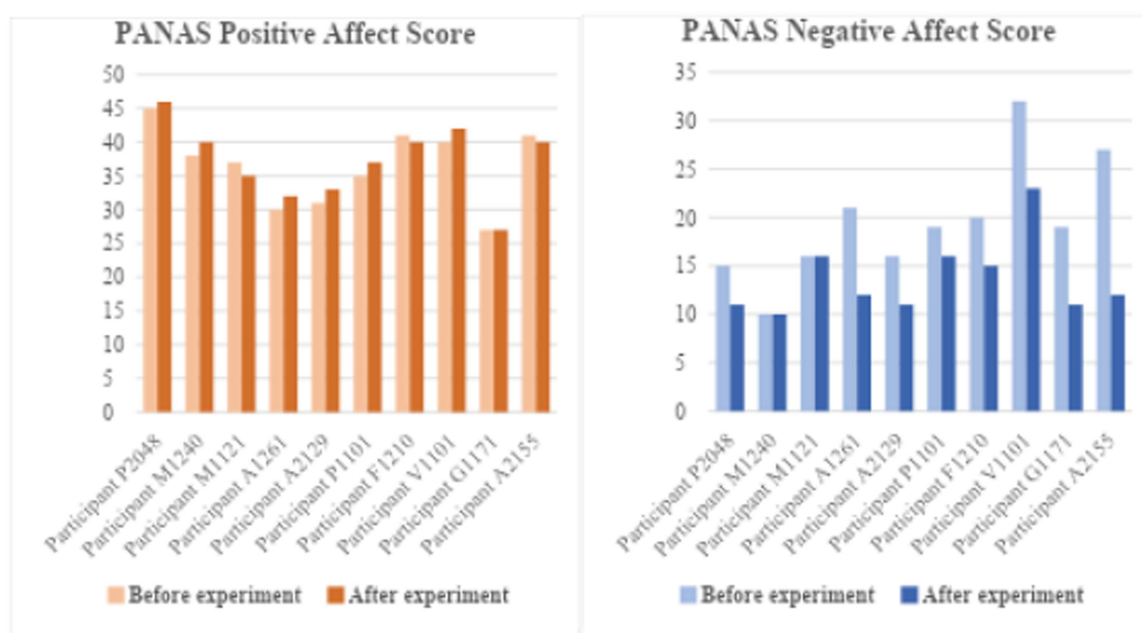


FIGURE 5 | The AI ad group's positive (L) and negative (R) affect.

positive affect, signaling a weaker emotional resonance for certain viewers. These variations appear closely linked to media consumption preferences: participants favoring informational content displayed highly stable, muted emotional shifts, whereas those predisposed to narrative-heavy content experienced significantly greater emotional volatility and susceptibility to the ad's affective triggers.

Participants with a stronger orientation toward informational content, such as P1101, exhibited more stable emotional responses, shifting less in extreme directions in both positive and positive affect. This suggests that individuals who prefer informational material may experience reduced emotional volatility when exposed to AI-generated advertisements. In contrast, those who showed more engaged and interested predispositions, specifically in narrative-heavy content, showed even greater emotional movement, which signifies a higher likelihood of susceptibility to the advertisement's emotional effects.

4.2.2 | Qualitative Data Analysis

This group's results provided detailed information on how AI-generated video ads are perceived compared to human-created ads (see Figure 2A). The participants' reactions contradicted Proposition 1, which suggests that AI-generated ads engage more cognitive than emotional processing. All the participants perceived the core message, supporting the cognitive engagement of the central elaborated processing route, but most primarily described their emotional reactions rather than offering an analytical reflection.

Although some participants identified emotional detachment because they felt some negative emotions while watching, such as sadness and pressure, many others reported significant positive emotional responses, including feelings of inspiration and understanding, which supports a reevaluation of this proposition (see Table A5). The analysis revealed varying perceptions of the ad: one participant disliked overly long and precise text slogans, which reduced emotional involvement, whereas others felt that the company and its services were not adequately described, indicating shortcomings in information transmission. However, all the respondents remembered either scenes or some details of the ad, indicating that the participants' perception was mainly visually dominated. That suggests that AI-based ads stimulate not only cognitive processing but also emotional responses more often than expected. The complete coding tree with all three levels using the Gioia approach is shown in Figure 6.

Proposition 2 assumed that ads generated by AI would be viewed as less emotionally engaging due to algorithm aversion. The results, however, indicate a more complicated relationship. Although some participants indeed seemed to feel a sense of coldness or distance knowing that AI had created the ad, most participants exhibited no strong algorithm aversion (see Table A6). Most were surprised at how emotionally engaging the ad was despite its origin and even modified their opinion about AI capabilities in a positive direction. Some participants became more interested in the company and considered it innovative because it had used AI to create the advertisement.

After seeing the capabilities of AI in video creation, many participants stated that they would soon be unable to distinguish between AI-generated and human-generated content, as both could convey emotional messages effectively. However, the respondents expressed worry about the future due to potential job losses caused by AI and the lack of proper regulation. The results suggest that algorithm aversion may not be as significant as initially believed and that consumers' perceptions of emotional authenticity can remain positive even when they are aware of AI origins. However, participants slightly changed their perception upon learning that the ad originated from AI, reinforcing that disclosure of the source does affect emotional engagement.

The findings strongly support Proposition 3, which states that emotional engagement has a significant impact on consumers' perceptions of an ad and its brand. Participants who had positive emotional connections with the ad developed positive perceptions of the brand, associating it with inclusivity and support (see Table A7). However, not all emotional feelings inspired by the ad strengthened brand image perceptions at all times, particularly among participants who perceived a disconnection between the emotional content and the brand message. Some participants believe that a different company had produced the advertisement, whereas others struggled to associate the perceived message with the provided services. The respondents' unwillingness to interact with the company in the future is related to a lack of clear information about the services and to individual tastes. For example, participants who either did not feel emotionally engaged or for whom the emotional message was misaligned with the brand's career mission, such as M1121, were less likely to form a positive view of the brand. However, participants who had already begun considering their future careers and were actively searching for employment demonstrated a strong interest in fostering further relationships with the brand. These results highlight the importance of emotional engagement in shaping brand perception while also underscoring the need for alignment between ads' emotional tone and a brand's core values to achieve effectiveness.

5 | Discussion and Conclusions

For answering our research questions, a mixed-methods approach (combining EEG, eye-tracking, and qualitative interviews) was utilized to provide insights into emotional engagement and consumer perception of AI-generated versus human-produced video advertisements. The first research question addresses the differences in consumers' perceptions of AI-generated video ads in contrast to their perceptions of human-created ads. The findings are discussed in relation to the original propositions and contribute to the development of theory, practice, and methodological understanding.

5.1 | Navigating the Authenticity Gap: Neurophysiological Responses to Synthetic Stimuli

AI-generated ads were surprisingly effective in triggering immediate emotional responses, often before conscious cognitive reflection. The participants reported strong emotional

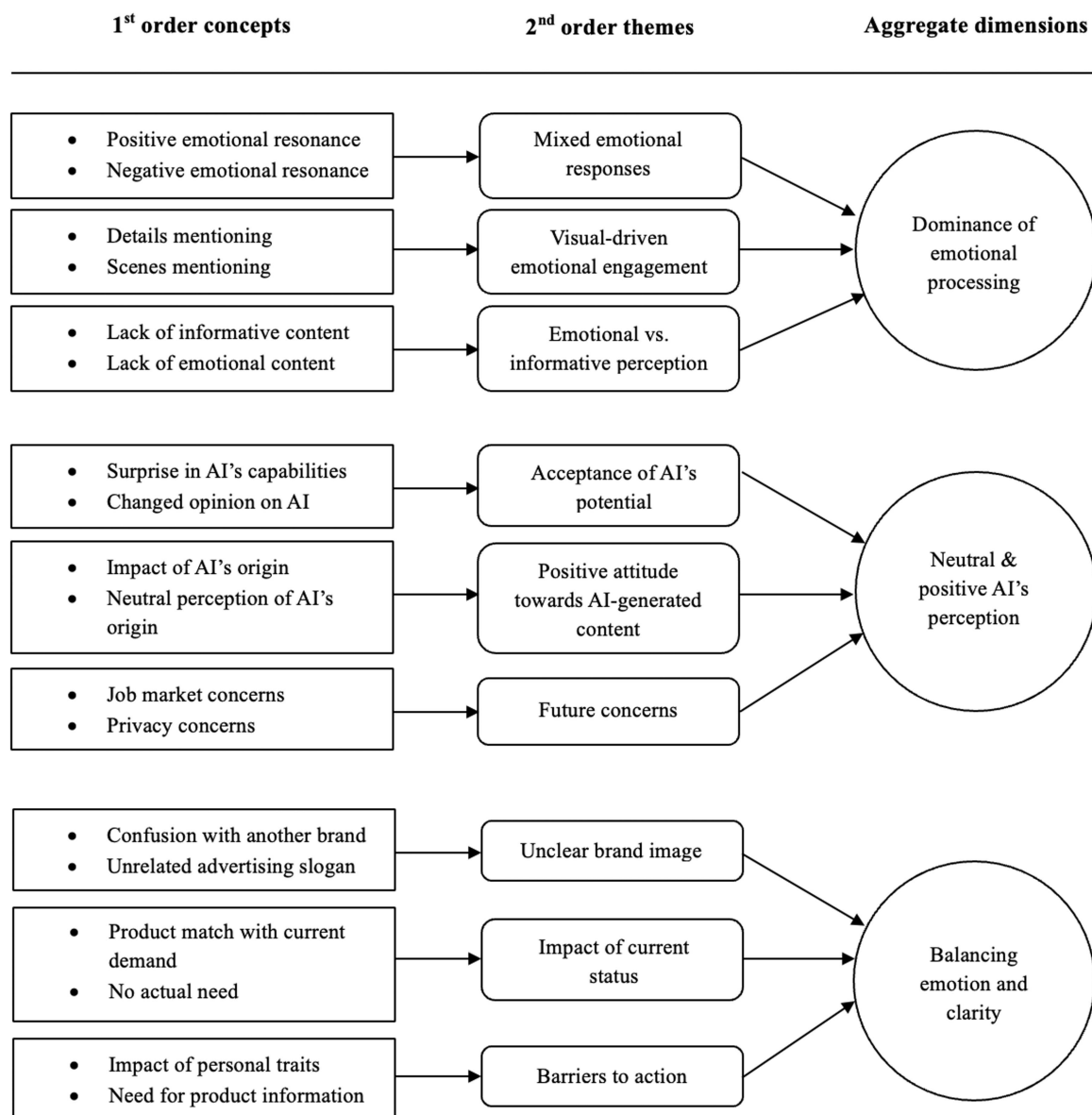


FIGURE 6 | Responses to AI-generated advertising coding tree.

reactions to visual elements and production quality, challenging the notion that AI-generated content lacks authenticity (Hattori et al. 2024). In contrast, human-made ads encouraged both emotional and cognitive engagement; the participants connected with the characters and narratives, which evoked personal and societal ties, suggesting that human-created ads activate both peripheral-intuitive and central-deliberative processing. Answering research question RQ1 that addresses how consumer perceptions of AI-generated video ads differ from their perceptions of human-created ads, the empirical results contradict the assumption that algorithm aversion leads to the inferiority of AI-generated advertising videos.

Physiological and visual tracking metrics indicate divergent processing pathways for each medium. The broader dispersion of visual attention and higher physiological excitement elicited by the AI ad point toward a structural strength in visual captivation. Conversely, the sustained, centralized gaze observed during the human-made ad underscores its superiority in

facilitating narrative relatability. Crucially, despite activating different attentional mechanisms, qualitative insights revealed a shared deficiency in brand integration across both groups. Because brand-message misalignment persisted regardless of the production method, we interpret that narrative coherence ultimately overrides authorship origin as the primary driver of functional advertising success. Despite the divergent impacts on attention, qualitative data from both groups revealed a shared challenge with brand integration (see Appendices A4–A7). The fact that brand-message discrepancies were prevalent across both experimental conditions suggests that narrative structure is a more significant driver of functional advertising success than authorship origin.

Addressing our second research question (RQ2) regarding brand alignment, affective shifts demonstrated that the synthetic origin of an advertisement does not inherently preclude consumers from forming emotional connections. In fact, because the AI-generated stimulus proved highly efficient at

elevating viewer mood, our findings suggest that AI possesses sufficient empathetic capacity to facilitate initial emotional bonding between the consumer and the brand.

5.2 | Reassessment of the Research Propositions

Proposition 1, which posited that the AI ad would elicit more cognitive than emotional processing, was not supported. The participants reported experiencing visceral and affective reactions to AI-generated content, driven by visual aesthetics and transitions rather than analytical judgment. The improved quality of generative visuals helps overcome previous mechanical imperfections, allowing for spontaneous emotional engagement. Seeing no substantial advantages of the human-generated advertisement over its AI pendant, post-hoc reasoning leads to possible explanations: (1) by disentangling the persuasive effect from its elaborateness, (2) by attributing the positive or negative tonality and message of the advertisements as framing effects, or (3) by supporting the claim of “a need and value in pursuing theory pruning (or failure) and pitting different theories or mechanisms against each other to better understand their boundaries” (Lei et al. 2025, p. 342). The concept of algorithm appreciation rather than aversion might emerge as an alternative explanation to the implicit and explicit prejudice against algorithm-created advertisements (Turel and Kalhan 2023).

Proposition 2 claims that algorithm aversion moderates the relationship between ad exposure and emotional bonding by introducing a “validity check” that suppresses the automatic orienting response. Contrary to this proposition, developed from algorithm aversion theory and supported by previous results by Brüns and Meißner (2024), the results of the first explanatory study do support a moderating effect of algorithm aversion. While some participants initially doubted AI’s capacity to convey empathy, those who directly experienced the AI ad often revised their opinions. High-quality output prompted curiosity and reduced resistance. This suggests that firsthand exposure can mitigate algorithm aversion, especially when the content exceeds expectations.

Proposition 3, contending that emotional involvement strongly influences ad and brand perception, was partially supported. Although emotional resonance increased interest, it did not consistently translate into brand trust or recall. Participants often became absorbed in the narratives or aesthetics, sometimes at the expense of grasping the brand message. However, for those with contextual relevance (e.g., job seekers), emotional appeal did enhance brand interest. This observation underscores the importance of aligning emotional storytelling with clear messaging and personal relevance.

Consolidating these results, we can answer our second research question that addresses consumers’ emotional bonding with each AI-generated versus human-originated ad, with the remarkable result that the AI-generated ad is not inferior to the traditional one. Notably, the information of origin is changing the processing modus and, therefore, might increase the communication effect in a positive manner.

5.3 | Contributions to the Discussion of AI-Generated Advertising

This study advances the literature on advertising and consumer psychology by demonstrating that AI can generate emotionally resonant content, thereby challenging traditional views that emotional creativity is exclusive to humans. Addressing the gaps in contemporary knowledge explicated in Table S1, in our experiment participants with infrequent exposure to commercials exhibited greater engagement, presumably due to the novelty of the experience.

First, the findings suggest a need to reinvestigate dual-process frameworks in advertising. Contrary to assumptions, AI-generated ads triggered rapid emotional responses, delaying cognitive appraisal. This indicates that the medium’s origin (AI or human) may be less critical than previously believed (Hattori et al. 2024), provided the content is effectively compelling.

Second, the results suggest further investigation into algorithm aversion behavior. While skepticism about the effectiveness of AI-generated ads prevailed among participants exposed only to the human ad, those who experienced the AI version exhibited greater openness. This shift underscores the transformative power of direct exposure to high-quality AI-generated creativity, suggesting that algorithm aversion is not fixed but context dependent. Notably, the results hint towards a need for further research framed in algorithmic appreciation of respondents in the vein of Kaufmann (2021) rather than the algorithm aversion.

Third, the study contributes to theories of marketing creativity (Amabile 2020; Ford et al. 2023). By evoking surprise and emotional impact, the AI ad demonstrated the potential of generative systems to strike a balance between novelty and audience expectations. This challenges models that frame AI as suited only for repetitive tasks, positioning it as a viable source of authentic creative output.

These findings reveal a dynamic psychological mechanism where dual-process theory and algorithm aversion interact to determine consumer acceptance. Traditionally, awareness of AI authorship is hypothesized to serve as a cognitive brake (a psychological trigger that interrupts automatic processing and enforces deliberate, cautious evaluation), triggering a skeptical, high-elaboration state that leads to the devaluation of creative output. However, our neurophysiological data suggest a peripheral pre-emption effect: the high-fidelity visual stimuli and emotional resonance of the AI-generated ad (evidenced by EEG peaks in excitement and interest) triggered a rapid, intuitive response. This visceral engagement occurred so instantaneously that it bypassed the viewer’s initial cognitive defenses, delaying the onset of analytical scrutiny. When the subsequent analytical appraisal took place, the content’s objective quality disconfirmed the mechanical stereotype of AI, exceeding the viewer’s aesthetic expectations. This successful validity check effectively transformed latent skepticism into algorithm appreciation. Consequently, the shift from aversion to appreciation is driven by the combination of visual fidelity (high-resolution image/video quality), narrative novelty (the unexpected nature of the plot), and the resulting delay in cognitive appraisal (the

time lag between perceiving a stimulus and consciously judging its origin), collectively forestall immediate bias, which allowed the emotional bond to solidify before the ad's origin could be critically scrutinized.

5.4 | Implications for Theory Advancement

The primary theoretical contribution of this study is the integration of dual-process theory and algorithm aversion theory to establish a novel, dynamic mechanism of consumer cognitive processing. Specifically, our findings explicitly extend and modify these foundational frameworks in two distinct ways:

1. *Extension of Dual-Process Theory via Source-Origin Gatekeeping*: Standard dual-process models, such as the Elaboration Likelihood Model (ELM), typically frame the shift between intuitive (peripheral) and analytical (central) processing as a function of motivation, cognitive capacity, or cue integration. Our findings extend these models by introducing *source-origin gatekeeping* as a distinct, independent variable that triggers dynamic pathway shifts. We demonstrate that the mere awareness of AI authorship functions as a “cognitive brake.” This brake actively disrupts ongoing peripheral processing, forcing an involuntary shift into a central, critical state of scrutiny. Consequently, advanced dual-process models must be updated to account for a two-stage process where stimulus origin can retroactively override established intuitive engagement. Each stage captures one of the two routes of the dual process model, with transition probabilities expressing the change from one processing route to the other. Notably, the transition probabilities can be specified as time-dependent to capture the individual's progress in information processing.
2. *Modification of Algorithm Aversion Theory from Static Bias to Transient State*: Current algorithm aversion theory posits that consumers inherently devalue AI-generated outputs in subjective or creative domains due to a perceived lack of empathy and authenticity. Our neurophysiological findings modify this assumption by proving that algorithm aversion is not a static, impenetrable cognitive bias. Instead, we establish the *peripheral pre-emption effect*: exceptionally high-fidelity visual stimuli can trigger an automatic orienting response (captured via high EEG engagement and excitement metrics) that occurs so rapidly it delays cognitive appraisal. By the time the ‘cognitive brake’ engages, the emotional bond has already been forged. We modify algorithm aversion theory by demonstrating that immediate, visceral engagement acts as a catalyst, actively transforming latent aversion into algorithm appreciation once the viewer's aesthetic expectations are exceeded.

5.5 | Study Limitations and Directions for Future Research

Despite its contributions, our study has several limitations. The participants in both groups sought more tangible information and found it challenging to connect the career-service brand to

the emotional narrative (as reported in Tables A4, A5, and A7), suggesting that narrative structure is a more critical determinant of functional advertising success than the provenance of authorship.

The small, student-based sample ($N = 20$) limits generalizability and constrains the analysis of demographic variations. Therefore, the empirical part of the study is exploratory by nature. Furthermore, the laboratory setting may have altered natural ad-viewing behavior, introducing potential reactivity and attentional biases. Although EEG and eye-tracking offer objective measures, reliance on self-report instruments (e.g., PANAS-SF, open-ended interviews) may introduce social desirability or self-censorship. Participants may have tailored their responses, particularly on sensitive themes such as the creative legitimacy of AI.

The sample size of this exploratory study does not allow for the substantial use of inferential analysis, which is evident in its positioning as the objective assessment of physical reactions. We complement the quantitative component with open-ended, semi-structured qualitative interview questions to elicit respondents' perspectives on the objective assessment of the physiological reactions in the advertising videos.

Future studies should employ larger, more demographically diverse samples to explore the generalizability of the findings and test subgroup differences in AI-generated ad perception. Moreover, larger quantitative samples will enable extensive use of sophisticated inferential analysis (e.g., Wagner and Grimm 2023). Comparative studies across industries (e.g., healthcare, luxury goods, and financial services) could reveal sector-specific patterns in algorithm aversion and emotional engagement. Additionally, experimental manipulation of AI disclosure timing (pre- vs. post-exposure) could illuminate its influence on ad reception. As our findings do not yet allow for empirically grounded scenario distinctions in which AI may or may not outperform humans, we outline these as avenues for future research rather than presenting speculative conclusions. Exploring hybrid “co-creation” models, where AI is positioned as a tool aiding human creativity, may also yield novel insights into consumer attitudes toward machine involvement in storytelling.

Acknowledgments

We would like to thank Prof. Maria Carmen Rodriguez Santos from the University of Leon for her inspirational advice on our research design and Dr. Malek Grimm from the University of Kassel for his support in handling technical recording devices. Open Access funding enabled and organized by Projekt DEAL.

Funding

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.

Supporting File 1: mar70235-sup-0001-MVC_Appendix.docx.

Supporting File 2: mar70235-sup-0002-MVC_Supplementary_Material.docx.