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USING NEUROSCIENCE TO DECODE TOURIST BEHAVIOR AND INTENTIONS FOR SUSTAINABLE CHOICES

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Abstract
Tourism is an inherently emotional experienc**e**. Yet, for decades, research has relied predominantly on rational-choice models and self-report surveys, assuming that tourists make deliberate and conscious decisions. Recent advances in neuroscience and consumer behavior studies challenge this assumption, revealing that up to 95% of our decisions are driven by unconscious processes and emotional responses. This paper introduces a neuroscientific framework for decoding tourist behavior. It is based on dual-system theory (System 1 and 2), predictive brain models, and physiological measurement techniques such as EEG, eye-tracking, GSR, facial coding, and implicit association testing. Through real-world case studies in food tourism, hospitality, and cultural heritage, we show how these tools uncover unspoken emotional responses that shape memory, satisfaction, and behavior. A dedicated section addresses sustainable tourism, illustrating how neuroscience-informed nudges can help align tourist behavior with ecological values without compromising enjoyment. Finally, we explore implications for tourism operators, marketers, and policymakers, emphasizing how emotion-driven design and communication can foster more engaging and sustainable tourism experiences.

Keywords: Consumer Neuroscience, Emotion Measurement, Predictive Processing, Sustainable Tourism, Tourist Behavior, Unconscious Decision-making.

Introduction

Tourism is not just about destinations—it is about the emotions they evoke. Previous research has shown the important link between positive emotions and tourist satisfaction as well as revisit intentions (Hosany & Gilbert, 2020). Yet, much of tourism research has approached the tourist as a rational planner, relying on post-trip surveys and interviews. This model overlooks what neuroscience has made increasingly clear: our brains are emotional prediction machines, and the majority of our decisions are fast, automatic, and unconscious.

Neuroscience, particularly when applied in consumer contexts, offers powerful tools for capturing what tourists feel in the moment—whether they can articulate it or not. EEG (electroencephalography), eye-tracking, facial coding, galvanic skin response (GSR), heart rate monitoring, and implicit association tests (IAT) allow us to observe reactions in real time. These methods help uncover hidden emotional peaks, biases, and memory triggers that standard surveys often miss.

This paper presents a framework for integrating neuroscience into tourism research. We begin with core theories that explain the unconscious basis of decision-making. We then review methodologies and explore case studies demonstrating how these tools reveal the true emotional landscape of the tourist experience. Lastly, we examine how neuro-informed nudges can promote sustainable behavior and what this means for future tourism design.

Theoretical Foundations

Studies on destination image have shown the importance of positive emotions on brand loyalty. Furthermore, research demonstrated that both cognitive image (e.g., quality, infrastructure) and affective image (emotions associated with the place) shape loyalty, with affective image having a growing importance (Stylos, Vassiliadis, Bellou, & Andronikidis, 2016). As such, understanding tourists' emotional responses is vital for destination managers and can lead to place attachment and destination loyalty.

One of the earliest theories of destination choice was developed by Gunn, who argued that tourists go through seven stages when making travel decisions. Gunn's (1988) model highlights the role of mental image formation in guiding tourists' destination choices. While originally framed within a cognitive-behavioral perspective, the model shows the emotional dimension that underlies each stage. Tourists accumulate mental images of destinations over time, which are not purely factual but emotionally charged—shaped by media, stories, and symbolic associations that evoke feelings such as excitement, nostalgia, or curiosity. As the decision-making process progresses, these emotional impressions are refined and directly influence whether a destination is considered appealing or desirable. The model fails to acknowledge that while guided by emotions, tourists are often not aware of the deep underlying motives that shape their decisions.

In a world grappling with overtourism and the negative impacts of travel, there is an urgent need for sustainable destinations and brands that prioritize the local community well-being and safeguard vital cultural and natural resources for future generations. Despite widespread claims that travelers prefer eco-friendly options, research consistently shows a gap between intention and action, most tourists ultimately do not choose sustainable brands (Juvan & Dolnicar 2014). This paper hence argues that gaining deeper insight into tourists' emotional responses to sustainable brands is essential for giving these brands a meaningful competitive advantage

System 1 And System 2 In Tourist Behavior

Tourist decisions are rarely fully deliberate. Dual-process theory, popularized by Daniel Kahneman (Kahneman, 2011), distinguishes between two modes of thinking: System 1 (fast, intuitive, emotional) and System 2 (slow, rational, deliberate). In leisure contexts, System 1 dominates. A tourist may choose a hotel because "it feels right," not because they analyzed all options.

Neuroscientific studies show that System 1 triggers are heavily influential in travel: visuals, music, scent, and even staff expressions can activate approach or avoidance responses long before conscious reasoning takes over. Eye-tracking can reveal that people fixate on certain images; EEG can show left-frontal activation associated with positive emotions. These physiological cues indicate real preferences, even if the tourist later rationalizes a different reason for their choice.

Neurobiological Mechanisms Behind System 1 And 2

At a brain level, System 1 relies primarily on subcortical and limbic structures such as the amygdala (emotional salience), ventromedial prefrontal cortex (vmPFC) (valuation and intuitive judgments), and insula (bodily awareness and gut feelings). These areas process information rapidly and with minimal cognitive effort.

In contrast, System 2 activates regions associated with conscious control, including the dorsolateral prefrontal cortex (dlPFC), involved in reasoning and planning, and the anterior cingulate cortex (ACC), which monitors conflict and errors.

In tourism, where experiences are often novel, multisensory, and emotionally rich, the brain prioritizes fast, emotionally guided reactions over slow, analytical thought. This explains why visual impressions, scents, or even a smile from a receptionist can unconsciously steer decisions—long before any conscious evaluation takes place.

Predictive Processing And Expectation Management

Our brains are constantly predicting what will happen next. This predictive coding shapes perception and satisfaction. A tourist arrives at a site expecting peace and beauty (based on marketing photos); if reality aligns, the brain's reward system—particularly the ventral striatum and orbitofrontal cortex—triggers a positive emotional response. If the experience violates expectations—say, the beach is crowded and noisy—the result is prediction error and disappointment.

One of the neural markers of surprise is the P300 wave, a component detectable via EEG that reflects the brain's reaction to unexpected stimuli. GSR can capture spikes in arousal when these predictions are violated. Understanding this mechanism helps tourism operators not just meet expectations but manage them strategically—sometimes even designing "delightful" prediction errors that create memorable moments.

The Unconscious Basis Of Decision-Making

We like to believe we are in control of our choices. But evidence suggests otherwise. Most decisions happen before we are aware of them. Tourists might say they chose a restaurant because of reviews, but their initial preference was shaped by lighting, music, or a host's smile—factors that bypass conscious deliberation.

EEG studies reveal that brainwave activity—especially in the anterior cingulate cortex and medial prefrontal cortex—can predict choices before participants declare them. GSR captures emotional arousal even when people report feeling neutral. IATs uncover associations tourists might not admit (e.g., linking a destination with danger or excitement). Facial coding adds another dimension by detecting micro-expressions that reveal emotional truth beneath social masks.

Methodology: Neuroscientific Tools In Tourism

Modern neuroscience offers a variety of non-invasive methods to capture tourists' emotional and cognitive responses in real time. Below are the most used tools in tourism research.

- Electroencephalography (EEG): Measures brainwave patterns to assess attention, engagement, and emotional response. Especially useful for analyzing reactions to stimuli such as videos, virtual tours, or in-person experiences.
- Eye-Tracking: Records visual attention by tracking fixations and saccades. Heatmaps generated by eye-tracking can show what captures a tourist's gaze—essential in UX design, signage optimization, and exhibit placement.
- Facial Expression Analysis (Facial Coding): Uses computer vision to analyze micro-expressions and classify emotions like joy, surprise, confusion, or disgust. Emotivae, for example, leverages this method to decode user engagement in real time.
- Galvanic Skin Response (GSR): Measures changes in skin conductance caused by emotional arousal. GSR helps identify emotionally charged moments during experiences such as museum visits or adventure tourism.

- Voice Emotion Analysis: Captures tone, pitch, and speech rate to determine emotional state. Ideal for analyzing call center interactions, guided tour narration, or video blogs.
- Heart Rate & Heart Rate Variability (HR/HRV): Higher heart rate and lower HRV often indicate stress or arousal. Combined with GSR and EEG, it helps differentiate between positive excitement and negative stress.
- Implicit Association Test (IAT): Assesses subconscious associations between concepts (e.g., a destination and emotions like fear, relaxation, or luxury) by measuring reaction times during categorization tasks.

These tools provide real-time, objective data. By combining multiple measures, researchers can triangulate emotional, cognitive, and behavioral reactions, yielding a more complete understanding of the tourist experience.

Case Studies: Neuroscience In Action

Singapore – Eeg-Based Personalized Itinerary Design

A landmark neuro-tourism project by the Singapore Tourism Board, conducted alongside UNSW and the University of Sydney, studied 5 Australian families (approx. 20 individuals, including parents and children). Participants wore Emotiv Insight EEG headsets and visited 20 distinct experiences across Singapore—ranging from theme parks to cultural markets. Findings:

The most joyful activation occurred in "postcard" attractions like Gardens by the Bay and Marina Bay Sands SkyDeck. Emotional peaks matched both high-cost and free experiences, suggesting unique, culturally rich, inexpensive activities are as emotionally rewarding as premium ones. Traditional food shopping triggered strong affective responses across ages. This data was used to design an Emotion-Driven Travel Guide, recommending attractions aligned with individual emotional profiles. EEG metrics included left-frontal alpha suppression (indicating positive engagement) and theta/alpha activity shifts.

Neural Insight

EEG markers: Left-frontal alpha suppression correlates with positive feelings; increased theta reflects cognitive engagement.

Brain areas: Medial Prefrontal Cortex (valuation), Amygdala (emotion), and Hippocampus (memory) were implicated.

Shanghai Disneyland – Geolocated Facial Coding

A recent empirical study published in Scientific Reports analyzed 42,988 geolocated social media posts from Sina Weibo, containing a total of 148,132 faces captured between January 2019 and December 2020 at the Shanghai Disney Resort. An automated facial analysis system was used to detect seven basic emotional expressions: happiness, sadness, disgust, anger, surprise, fear, and neutral. Each detected face was also classified into one of six demographic groups: teen male (TM), teen female (TF), adult male (AM), adult female (AF), older male (OM), and older female (OF).

Key Findings

Teen females (TF) showed the highest positive emotional responses in adventure-themed areas, such as Adventure Isle. Teen males (TM) exhibited more heterogeneous emotional patterns, often clustered around low arousal and negative valence zones, particularly in calmer park areas. Adult and older males frequently expressed dissatisfaction with food pricing, as inferred from image captions (e.g., "Why so expensive? Next time, I'll bring my own!"). Older females (OF) displayed lower emotional responses in Gardens of Imagination compared to younger female cohorts, suggesting demographic-based experiential differences.

Methodology

Sample: 42,988 posts containing 148,132 usable facial images
Tool: Facial Coding software for emotion recognition, gender, and age classification
Analysis: Valence-arousal mapping combined with cluster analysis segmented by themed lands
Objective: Identify emotional patterns linked to both spatial location and demographic segment

Neural Interpretation

Although direct neural measurements (e.g., EEG or GSR) were not used, the emotional expressions captured are consistent with activity in key affective brain regions: the amygdala (emotional salience), the orbitofrontal cortex (valuation), and the superior temporal sulcus (facial emotion recognition). Patterns of high arousal and positive valence suggest activation of the brain's circuitry.

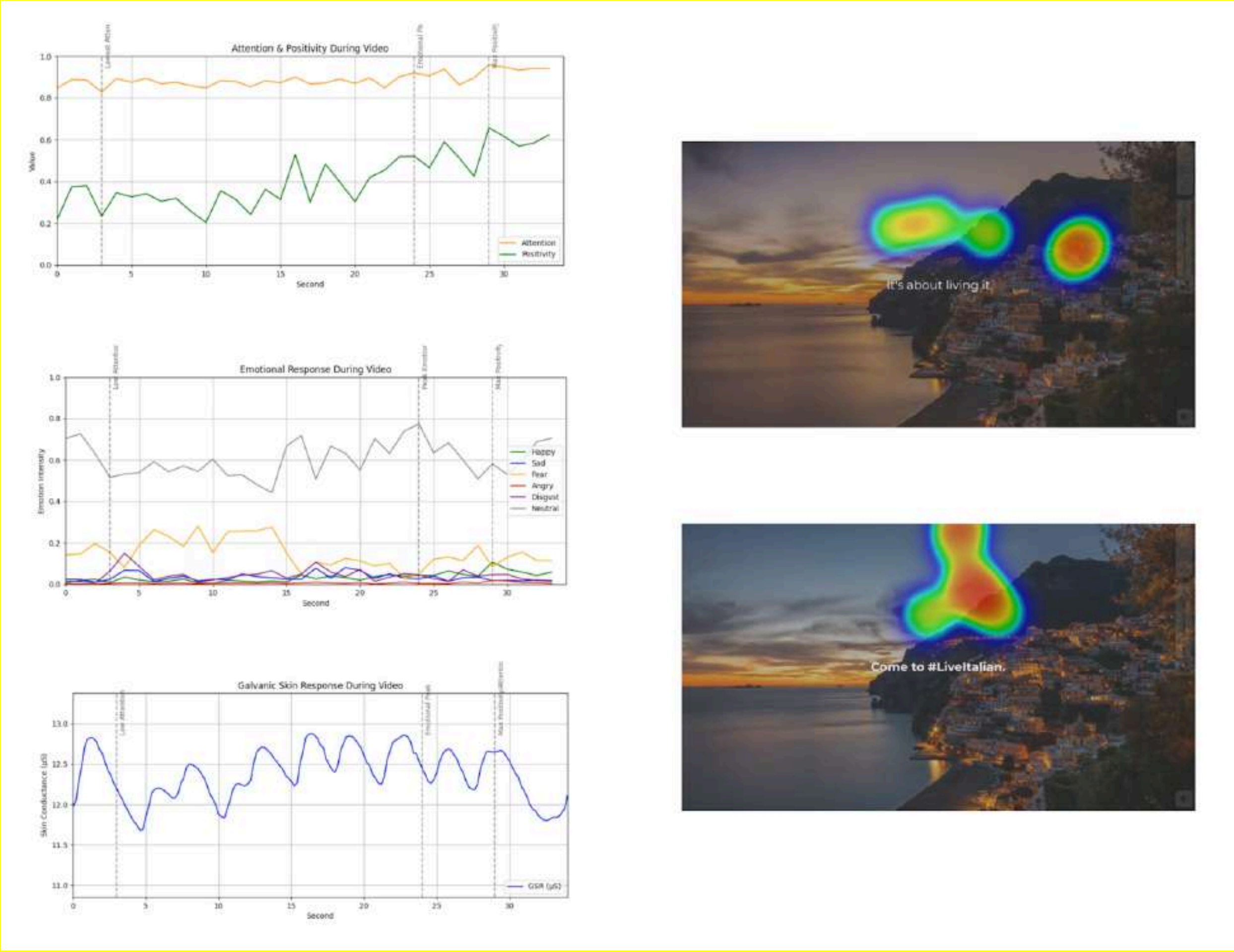
Implications

This large-scale emotional mapping provides insights into experience design, crowd management, and marketing. Identifying "emotional hotspots" helps operators understand which areas generate the most engagement and which may need redesign. Demographic-specific emotional profiles allow for more targeted communication and experience personalization. The findings highlight how emotional data—collected passively and anonymously—can support the alignment of park design with real visitor affective responses. This study demonstrated the feasibility and value of using large-scale facial coding to infer emotional experiences in tourism contexts, even without intrusive or wearable devices.

A peer-reviewed study by Hsu and Chen (2020) examined how subliminal emotional cues in hotel advertisements influence consumer decision-making and neurological responses. Sixteen university students participated in an experiment where they viewed hotel promotional videos, some of which contained a 33-millisecond subliminal image of a smiling emoji—below the threshold of conscious perception. The results showed that these subliminal cues significantly influenced hotel selection ($\chi^2 = 10.21$, $p < .01$), with a Bayes factor of 18.2 indicating strong evidence for the effect. Neurophysiological data revealed increased theta wave activity ($t = -5.65$, $p < .001$), associated with positive emotion and memory encoding, and decreased beta wave activity ($t = 2.93$, $p < .01$), linked to reduced anxiety and increased comfort. Brain regions implicated included the anterior cingulate cortex and medial prefrontal cortex for emotional evaluation, the insula for affective awareness, and the orbitofrontal cortex for value assessment. GSR (galvanic skin response) also showed subtle increases, reflecting heightened autonomic engagement. These findings suggest that subliminal positive cues can unconsciously shape consumer preferences by enhancing emotional resonance and memory formation.

While the study provides evidence for the impact of subconscious stimuli in tourism marketing, its small sample size and limited physiological measures call for further research with larger and more diverse participant groups. Nonetheless, it highlights the powerful, albeit ethically sensitive, role of neuromarketing techniques in influencing traveler behavior at a subconscious level

Misaligned Attention in Italian Tourism Video – A Multimodal Neuromarketing Analysis



In a neuromarketing study conducted on a promotional video for an Italian tourism destination, a combination of neurophysiological tools was employed to evaluate the emotional and attentional impact of the narrative. The objective was to assess whether the emotional climax of the video effectively aligned with the placement of the call-to-action (CTA).

Methodology And Sample

Participants: 30 adults (aged 24–52), evenly distributed by gender, recruited through local travel interest panels.

Tools:

- Facial Coding: Emotivae Sense, a proprietary AI-driven software developed to decode micro-expressions and real-time emotional fluctuations via facial action units (FACS-based).
- Eye-Tracking: Desktop-mounted infrared eye-tracker recording fixations and saccades with 60 Hz resolution.
- GSR (Galvanic Skin Response): Measured via wrist-mounted sensors to assess autonomic arousal.

Protocol: Participants viewed the 90-second video in a controlled lab setting, followed by a free-recall task and a brief structured interview for declarative data comparison.

Results

- The narrative arc of the video built toward a strong emotional peak in the final 10 seconds, featuring slow orchestral music, panoramic sunset shots, and poetic voice-over. During this segment:
- Facial coding revealed a significant increase in AU12 (zygomaticus major activity) associated with smiling, along with AU1+2 (inner and outer brow raise), suggesting surprise and emotional uplift.
- GSR signals spiked in 83% of participants during this final scene, indicating heightened sympathetic arousal.
- Eye-tracking data, however, told a different story: while the CTA ("Book your journey now") was positioned in the lower right corner, gaze heatmaps showed a consistent shift of attention upward, toward a time-lapse of moving clouds in the sky.
- This divergence was traced to bottom-up visual salience mechanisms: the drifting clouds, a high-contrast, dynamic stimulus, triggered involuntary orienting responses, activating the superior colliculus, area MT/V5, and early visual cortex (V1–V3). These regions are known to redirect gaze toward motion, even when it is not task relevant.

Interpretation

While the video successfully generated an emotional climax—ideal for memory encoding and action readiness—it failed to channel that activation toward the desired behavioral output. In neurocognitive terms, the motivational system was primed, but the attentional system was misdirected.

This case exemplifies a core principle of neuro-UX and neuromarketing: emotion is necessary but not sufficient. Conversion requires that emotional peaks coincide with attentional focal points. If not, the "window of influence" closes before the message is seen.
Implications for Practice

In high-emotion moments, visual hierarchy and layout must be designed to guide gaze toward the target message using static contrast, motion framing, or visual anchors. The integration of gaze-contingent design—where motion or luminance guides attention—can help align the attentional and emotional systems. Tools like Emotivae Sense, in combination with biometric and gaze data, offer a powerful way to pre-test campaign effectiveness before deployment.

In an applied neuroscience project at the Tianyi Pavilion Museum, one of China's oldest private libraries turned cultural site, researchers sought to improve visitor experience by mapping emotional and cognitive engagement throughout the museum. The initiative was part of a broader digital transformation effort to modernize interpretation and optimize exhibit flow using affective neuroscience.

Methodology And Sample

Participants: 52 visitors (aged 18–65, M = 34.7; 55% female), sampled over two weeks to reflect typical footfall demographics.

Tools and Metrics: EEG headsets (mobile, dry-electrode, 14-channel): measured real-time brainwave activity with focus on theta (4–7 Hz), alpha (8–12 Hz), and beta (13–30 Hz) bands.

PAD emotional state model: EEG data was mapped onto Pleasure-Arousal-Dominance (PAD) dimensions to quantify emotional experience by room and exhibit.

Self-report follow-up: visitors completed post-visit questionnaires and recall tasks to correlate neural data with conscious impressions.

Findings

The emotional landscape of the museum varied significantly by exhibit type and environmental **d**esign:

High theta activity (↑4–7 Hz) was observed in immersive, story-driven rooms—particularly those featuring poetic calligraphy with ambient soundscapes and projected historical imagery. This pattern aligns with deep engagement and memory encoding, linked to activation in the hippocampus and medial temporal lobe.

High alpha waves (↑8–12 Hz) were recorded in quieter sections housing static textual archives. This suggests relaxation and low arousal, associated with reduced cortical stimulation and potential boredom if not balanced with higher-stimulation areas.

Beta desynchronization and left prefrontal asymmetry correlated with positive emotional valence and valuation processes in the orbitofrontal cortex (OFC) and dorsolateral prefrontal cortex (dlPFC).

Spikes in amygdala-related EEG signatures (notably right-hemisphere beta increases and reduced alpha power) occurred during emotionally themed exhibits, such as one highlighting banned books and political exile.

Interventions And Redesign

Based on this data, curators implemented several changes:
Redesigned visitor pathing to alternate emotionally intense areas with more neutral “restorative zones,” reducing cognitive fatigue and enhancing pacing. Integrated AR and VR experiences in low-engagement rooms—particularly the archival zones—resulting in a 27% increase in post-visit recall and a 21% increase in reported satisfaction scores. Added ambient scent and subtle soundscapes to enhance immersion in historical zones where EEG suggested under-stimulation.

Neuroscientific Interpretation

Prefrontal cortex engagement reflected decision-making and attentional effort during interactive content. Amygdala activation indicated emotional salience, helping to predict what would be remembered. Hippocampal activation proxies (via high theta) aligned with rooms where long-term recall was highest in follow-up surveys.

Impact

The use of neuroscience tools provided granular, non-verbal insight into how different demographics respond to exhibit types. Unlike surveys alone, which often yield flat averages, the EEG-PAD model captured dynamic emotional microclimates within the space. The museum reported a 15% increase in repeat visit intent and stronger reviews on digital platforms within 3 months post-redesign.

This case illustrates how museums can move beyond “design by intuition” and toward emotionally optimized curation, aligning brain-based insights with cultural storytelling.

Sustainable Tourism And The “Green Gap”

Why Tourists Don’t Naturally Act Green

Although most tourists express support for sustainability, they frequently neglect sustainable behaviors while on vacation. This gap between intention and action is partly explained by cognitive overload: during leisure travel, the brain shifts into a hedonic, automatic mode dominated by System 1 thinking, while the more deliberate, effortful System 2 processes are minimized (Kahneman, 2011). Additionally, prediction bias plays a role—travelers’ mental models of vacations prioritize relaxation and pleasure, not tasks perceived as “work,” such as recycling or minimizing energy use. If sustainability practices are not embedded into the environment as defaults, they are often overlooked. Neuroscience further explains this resistance: the anterior insula, which processes effort, signals discomfort when extra steps are required, while the nucleus accumbens drives the pursuit of instant rewards. As a result, eco-friendly actions are often avoided unless they are perceived as easy and immediately gratifying. However, neuro-informed behavior design offers effective solutions. Nudges such as default eco-options, real-time feedback (e.g., "You saved five bottles"), emotionally evocative imagery (like a turtle entangled in plastic), social norm messaging ("90% of guests turn off their AC"), and gamified rewards can successfully shift behavior. Field studies in resorts and restaurants across Asia and Europe demonstrate that these strategies can double eco-friendly behaviors without compromising guest satisfaction.

Nudges And Neuro-Informed Behavior Design

Effective behavioral nudges leverage how the brain processes effort, reward, and social cues. Default framing, such as making towel reuse the standard option, taps into the brain's energy-saving bias, reducing the need for active decision-making. Instant feedback, like messages stating, "You saved five bottles," activates dopamine pathways, offering immediate gratification for eco-friendly actions. Emotional imagery—for example, photos of turtles entangled in plastic—triggers the amygdala, evoking empathy more powerfully than abstract statistics. Social norm messaging, such as "90% of guests turn off their air conditioning," engages the medial prefrontal cortex, which processes social comparison, motivating people to align with perceived group behavior. Additionally, gamified tools like apps that track carbon savings stimulate reward centers and reinforce sustainable choices as part of a traveler's identity. Field experiments in resorts and buffets across Asia and Europe demonstrate that applying these neuro-informed strategies can double eco-friendly behavior without diminishing guest satisfaction.

Discussion: Practical Implications

Tourism is not just a service; it is an emotional journey composed of a sequence of experiences. To create meaningful and memorable encounters, operators must intentionally design for emotional peaks, focusing on key moments such as the arrival, unexpected surprises, and the farewell. Incorporating multi-sensory elements—like music, scent, and lighting—enhances emotional engagement, while training staff in emotional awareness, including tools like facial coding feedback, helps foster positive interactions. On the marketing side, campaigns should be pre-tested using eye-tracking and EEG technology to ensure they capture attention and evoke the intended feelings. Aligning promotional content with the actual on-site experience is crucial for building trust and avoiding disappointment, while emotionally resonant messaging strengthens memory and brand loyalty. Policymakers, too, can apply these insights by introducing emotional signage, deploying sensors to detect areas of crowd stress, and implementing neuro-informed nudges to guide public behavior ethically and effectively toward more sustainable and enjoyable tourism experiences.

Conclusion

This paper showed that tourism is not a rational choice. While tourists might not be aware, it is experiential, emotional, and often driven by subconscious processes. Traditional marketing and sustainability efforts frequently fall short because they rely on what tourists *say*, not what they *truly feel*. By integrating insights from neuroscience, the tourism industry can tap into the emotional drivers behind decision-making. This shift enables us to design experiences that resonate on a deeper level, build destination brands that feel authentic and meaningful, and promote sustainability in ways that inspire rather than repel. Ultimately, the brain doesn't lie. When we understand its signals, tourism can become not only more effective and competitive, but also more human, empathetic, and aligned with the values of both visitors and host communities.

Future Directions

Future research in tourism neuroscience is needed to better understand tourist decision making. Cross-cultural emotional comparisons can reveal how diverse cultural backgrounds shape emotional responses to destinations, while exploring host-guest relations through neural synchrony could deepen understanding of how shared emotional experiences foster connection and satisfaction. As virtual tourism and the metaverse grow, integrating emotional data into these digital experiences will be crucial for designing engaging and meaningful interactions. Additionally, tracking how emotions influence long-term memory formation and repeat visitation can offer valuable insights for destination loyalty and marketing strategies. Implementing real-time emotion dashboards could provide operators with live feedback, allowing them to adjust experiences dynamically to improve guest satisfaction. A key implication is the need to educate tourism professionals in neuro-literacy—not to replace creativity, culture, or human intuition, but to enhance them. Neuroscience offers the tools to better understand the universal language of emotion, enabling more authentic, meaningful, and sustainable tourism experiences. Lastly, educating tourism professionals in neuro-literacy is essential to create better experiences and emotional nudging.

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References

Gunn, C. A. (1988). Vacationscape: Designing tourist regions (2nd ed.). Van Nostrand Reinhold.

Hosany, S., & Gilbert, D. (2010). Measuring tourists' emotional experiences toward hedonic holiday destinations. Journal of Travel Research, 49(4), 513–526.

Hsu, C.-L., & Chen, M.-C. (2020). Neuromarketing, subliminal advertising, and hotel selection: An EEG study. Australasian Marketing Journal, 28(4), 200–208. https://doi.org/10.1016/j.ausmj.2020.01.002

Juvan, E., & Dolnicar, S. (2014). The attitude–behaviour gap in sustainable tourism. Annals of Tourism Research, 48, 76–95.

Kahneman, D. (2011). Thinking, fast and slow. Farrar, Straus and Giroux.

Liu, Y., Wang, C., & Zhang, H. (2021). Affective engagement in heritage tourism: An EEG-based visitor experience study at the Tianyi Pavilion Museum. Journal of Heritage Tourism, 16(5), 491–508. https://doi.org/10.1080/1743873X.2021.1881767

Neuralisys. (2024). Emotion-attention mismatch in video-based destination marketing: A neuromarketing case using Emotivae Sense [Internal study report].

Shanghai Disney Resort & iMotions. (2018). Enhancing guest experience through facial expression recognition: A neuromarketing pilot [Internal report].

Singapore Tourism Board & Nielsen Neuro. (2019). Emotion-led itinerary development using EEG analysis [Conference presentation]. Asia-Pacific Travel Innovation Forum.

Stylos, N., Vassiliadis, C. A., Bellou, V., & Andronikidis, A. (2016). Destination images, holistic images and personal normative beliefs: Predictors of intention to revisit a destination. Tourism Management, 53, 40–60.