

**Neuroaesthetic Responses to African Textiles: Implications for Consumer Emotion and
Buying Behavior in African Fashion Marketing**

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Art and fashion have long shaped how we define ourselves, perceive others, and experience emotion. Through creative expression, individuals interpret meanings and form consumption habits that influence how they interact with the world. African fashion has gained international visibility, offering insight into cultural symbolism, identity, and innovation. African textiles, in particular, carry socio-cultural meaning, spirituality, and economic contributions that transcend centuries.

This raises an important question in creativity, culture, and commerce: *“How do people cognitively and emotionally respond to fabrics, and how can these responses inform marketing strategy?”* Neuroscience reveals that specific aesthetic features, such as color, contrast, symmetry, pattern, and composition, activate neural pathways associated with emotion, reward, and the processing of visually pleasing stimuli (Yu & Shepard, 1998; Zeki, 1999). Much of this research, and its application in consumer neuroscience, is grounded in Western studies and commercial environments, yet little is known about how these processes operate within African art and fashion contexts.

The rise of Artificial Intelligence (AI), a creative youth revolution, an expanding e-commerce surge, and a renewed cultural consciousness are driving a collective African fashion renaissance. As a result, designers across the continent are increasingly fusing ultramodern silhouettes with vintage patterns to form beautiful ensembles. Brands including Maxhosa, Christie Brown, Thebe Magugu, Moshions, Lagos Space Programme, Rich Mnisi, and fashion designers such as Deola Sagoe, Adebayo Oke Lawal, Anifa Mvuemba, Imane Ayissi, and Lisa

Folayiwó, highlight this shift through their designs, deriving inspiration from various aesthetic grammars and ancient wisdom.

However, despite the emerging creativity, we have little empirical understanding of how African fashion and textiles influence consumer behavior and emotional resonance. Therefore, this research proposes to investigate consumer interaction towards African textiles neuroscientifically, focusing on three distinct textile traditions: Kenyan fabrics (a wide selection of the country's ankara, with a focus on the Maasai designs), Xhosa clothing from South Africa, and Ashanti Kente from Ghana. The three major regions, although not a holistic representation of the continent's beauty, will be examined for their aesthetic designs, paving the way for a deeper Doctor of Philosophy (PhD) research with a broader convergence. African Neuroaesthetics, therefore, arises as a suitable subject of study.

Problem Statement

Consumer neuroscience and neuroaesthetics continue to expand globally, yet the research landscape remains heavily dominated by Western perspectives. Existing studies focus largely on Western art forms and commercial brands, assuming that aesthetic preferences are universal. Only recently, through exhibitions such as Britain's Victoria and Albert (V&A) Museum's showcase and the 2023 *Africa Fashion* exhibition at the Brooklyn Museum and fashion events such as MaXhosa Africa at Paris Fashion Week 2026, Lagos and Nairobi fashion week 2025 and 2026 respectively, and AMVCA 2026 — the Africa Magic Viewers' Choice Awards, 12th edition, have we witnessed a steady rise in African textile design and exposure on the global stage.

Little quantifiable data is available on African neuroaesthetic studies globally, mainly because the field is relatively new, despite its complex nature, economic significance, and

symbolic depth. As a result, most marketing decisions focused on African designs rely on Western knowledge, individual intuition, and preferences, with a limited understanding of the scientific aspects of the emotional and cognitive mechanisms influencing buying behavior.

A significant gap in the study creates underlying problems. African fashion brands and designers have fewer empirical insights to help them strengthen their marketing position. It also derives the notion that African aesthetics is more intuitive than structural, thereby conferring little neurological meaning. This study aims to provide quantifiable data that can benefit African fashion brands and designers, the textile industry, the marketing sector, and academia by deepening the understanding of the aesthetic perception and product engagement.

Generating valid research in this field will show how the patterns and prints are emotionally and cognitively perceived, hence developing evidence-based African fashion marketing. Understanding these neural responses will enable us to bridge neuroscience with cultural scholarship, marketing, and the perceptions of visually pleasing stimuli. Therefore, by examining neurological responses such as electroencephalography (EEG) and eye-tracking while targeting the guiding principles in neuroaesthetics, including nature, light, form, color, and tactility, we can gather data that informs consumer behavior and product preference.

Research Question

How do the aesthetic features of Maasai, Xhosa, and Ashanti textiles influence consumers' neuroaesthetic responses, governing buying behavior and emotional engagement in African Fashion Marketing?

Objectives

1. Recognize the neurophysiological responses (EEG, GSR, HRV, and eye-tracking) present in Maasai, Xhosa, and Ashanti fabric patterns.

2. Examine the specific aesthetic features - symmetry, color, complexity, and symbolism - that affect arousal, emotions, and perceived cultural resonance.
3. Analyze the effects of neuroaesthetics on consumer behavior, including purchase desire, preference, and brand engagement.

Hypotheses

1. The three African fabric patterns will activate specific areas of the brain linked with emotion, attention, and reward.
2. Fabrics with higher color vibrancy, structured geometry, and symbolic clarity will produce stronger emotional and psychological arousal.
3. Stronger neuroaesthetics responses will correlate with higher purchase, intent, and brand preference.

Rationale and Motivation

My interest in fashion and art began early, shaped by influences from family, the communities, and the schools I interacted with. This foundation, combined with a professional experience in marketing, eventually led to working with diverse brands and companies, where the cultures of Africa and the West meet. Academically, a Bachelor of Arts degree, combining psychology mj., economics mn., and mathematics, naturally aligns with the interdisciplinary nature of consumer neuroscience and neuroaesthetics. This project benefits and allows an expansion of expertise while contributing to Africa's economy and the enrichment of a developing discipline.

Having over five years of experience in digital marketing, social media, and brand communication, it is important to learn that humans are deeply emotional decision-makers whose choices are mostly shaped by intuition and societal influences. Yet, their purchasing decisions can also be informed by logic when supported by empirical research. The long-term goal is to

pioneer African Neuroaesthetics as a discipline that merges academia, art, and marketing, enabling African and international brands to make decisions using evidence-based data.

By focusing on enriching consumer neuroscience through partnerships with brands and designers across the continent and internationally, we can help push African fashion further into the global market. This research addresses an existing scholarly gap, a personal commitment, and a market desire to uplift African creativity and innovation, thereby promoting excellence in culture and innovation.

Literature Review

Neuroaesthetics has grown into a leading field, examining how the brain perceives aesthetics. Research indicates that visually pleasing stimuli activate the brain's reward system, including the medial orbitofrontal cortex (mOFC), parahippocampal gyrus, and amygdala. This suggests that specific features of African fabric designs elicit neural responses across different brain regions, drawing on symmetry, perception, and proportion (Zeki, 1999; Nadal & Pearce, 2011).

Recent searches also reveal two complementary yet distinct neurological pathways for testing aesthetic experience: internally induced (IN-I) and externally induced (EX-I) states. Internally induced stimuli are generated internally through reflection, imagination, and episodic memory (Djebbara et al., 2019). On the other hand, externally induced stimuli are stimulus-driven, involving visual stimuli such as color patterns and fractal structure, and produce reward through emotions (Zeki, 1999). These dual pathways explain how individuals perceive and appreciate aesthetics across diverse contexts. Importantly, it highlights how differently-abled individuals, including those who are blind, neurodivergent, or mobility-impaired, can engage

with aesthetics through alternative sensory channels, such as rhythm, tactile texture, vibration, touch, heightened auditory cues, and spatial intuition (Motley, 2024).

African neuroaesthetics aims to highlight the enduring uniqueness of this duality through its fabric designs and cultural significance. Hallen (2018) distinguishes aesthetic as moral and relational, offering a holistic processing view through intuition and an immediate emotional response, while Davies (2011) emphasizes a more embodied experience with a deliberate analytical processing view and symbolic encoding. Simply, internally induced textiles bring cultural significance, while externally induced textiles highlight aesthetics through their motifs.

Gestalt's theory and Social Cognitive theory further support these two distinct interpretations by proposing that some humans perceive visually pleasing stimuli as a whole rather than as a sum of its parts (ERIC, 2024). While some customers' preferences align better with Gestalt principles by organizing product patterns and repetition into logical forms, others agree with Albert Bandura and support the idea that individuals move from the whole to its components when viewing products. The entire composition pattern evokes an immediate emotional attraction, yet each part has its own value and meaning.

Contemporary work in African art also shows how visual forms create emotional depth through perception and memory. KT Motubatse and SJ Yende (2023) view the African design through visual and symbolic states, while Vaughan (2022) interprets the designs in terms of belonging, identity, and rich history. Additionally, other animal studies, such as peacock feather symmetry, bird courtship displays, bowerbird architectural rituals, and ring-tailed scent competitions, demonstrate that aesthetics is not unique to humans alone. It thereby strengthens the argument that aesthetic preferences have cultural and biological roots influencing interpretation and choices (Welsch & Wolfgang, 2004).

Marketing and consumer neuroscience also emphasize this dual process. While internally induced states impact brand loyalty through product engagement and deeper cognitive processes, externally induced states elicit attention and attraction through patterns and visual harmony (Yadete & Kant, 2023). The dual thinking offers a unique perspective on African fashion, blending holistic visual rhythm with symbolic detail, hence influencing buying decisions and product preference.

The different perspectives and interpretations of neuroaesthetics reveal a consistent need for empirical data in African fashion. Different designs showcase externally induced properties through geometry, color patterns, and intricate repetition, yet also have internally induced properties through memory and cultural symbolism. Obtaining data on how various customers process fabrics, holistically and in individual components, will strengthen our understanding of African neuroaesthetic responses and provide practical insights for neuromarketing and broaden the spectrum of visually pleasing stimuli.

Research Methodology

Design: Mixed-method experimental research consisting of computational analysis, computational aesthetics, neuropsychological measures, and self-report.

Participants: The research will engage participants aged 18 and above, balanced by gender ratios, cultural background, and differently-abled individuals across Africa. Inclusion aims to combine familiarity with African textiles and introduce unfamiliar elements.

Stimuli: High-resolution content on Maasai prints, Xhosa beadwork, and Ashanti Kente patterns, and other secondary clothing.

Instruments

- Electroencephalogram (EEG), for event-related potential and neural activity.

- Eye-tracking is used in visual attention and gaze fixation
- Galvanic skin response (GSR) for arousal
- Heart Rate Variability (HRV) for emotional responses
- Self-report measures for purchase intent, cultural identity, and perception of aesthetics

Procedure: Participants will engage with videos, images, and products while eye tracking, EEG, and psychological measures are recorded.

Baseline: Participants are presented with a neutral visual, minimal sensory input, and non-cultural stimuli to record natural physiological and neural activity before introducing the African designs.

-Post stimulus reflection for self-report

Total time per participant is approximately 45 to 60 minutes. All procedures will comply with the Research Ethics Committee rules and regulations.

Data analysis

- EEG Event Related Potentials (EEG ERP) components (P300, LPP) and spectral activity
- Eye-tracking metrics (fixation, heat, maps, saccades)
- Physiological arousal patterns
- Correlation between objective signals and behavioral intent
- Competition aesthetic extraction (color palette symmetry, complexity)

Conclusion

This research seeks to be a proponent of the African neuroaesthetic discipline. By investigating consumer behavior through emotions and neural responses to African fabrics, the study will further the interdisciplinary understanding and provide practical recommendations to promote fashion brands, designers, marketing, and the textile industry. While this research

cannot represent the whole African continent, it creates a foundation for a broader continental research agenda.

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