

**“A STUDY ON EFFECT OF SUBLIMINAL ADVERTISING ON
CONSUMER BUYING BEHAVIOR WITH REFERENCE TO GUJARAT
STATE”**

A Thesis submitted to Gujarat Technological University

For the Award of

Doctor of Philosophy

In

Management

By

JITENDRA BAPURAO PATIL

Enrollment No: 189999903016

Under supervision of

DR. SNEHALKUMAR H MISTRY



**GUJARAT TECHNOLOGICAL UNIVERSITY
AHMEDABAD**

[October 2026]

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Jitendra Bapurao Patil

List of Abbreviation

1. AI	–	Artificial Intelligence
2. AMA	–	American Marketing Association
3. ANOVA	–	Analysis of Variance
4. CBB	–	Consumer Buying Behaviour
5. CRM	–	Customer Relationship Management
6. EKB	–	Engel-Kollat-Blackwell Model
7. FCC	–	Federal Communications Commission
8. fMRI	–	Functional Magnetic Resonance Imaging
9. GTU	–	Gujarat Technological University
10. H0	–	Null Hypothesis
11. H1	–	Alternative Hypothesis
12. IT	–	Information Technology
13. KMO	–	Kaiser-Meyer-Olkin Measure
14. ML	–	Machine Learning
15. PCA	–	Principal Component Analysis
16. SEM	–	Structural Equation Modelling
17. SPSS	–	Statistical Package for the Social Sciences
18. TV	–	Television
19. U&G	–	Uses and Gratifications Theory
20. USA	–	United States of America
21. VR	–	Virtual Reality
22. SA	–	Subliminal Advertising
23. PI	–	Purchase Intention
24. BP	–	Buying Preference
25. BR	–	Brand Recall
26. BA	–	Brand Awareness
27. CR	–	Consumer Response
28. ER	–	Emotional Response
29. PEA	–	Perceived Effectiveness of Advertising
30. CB	–	Consumer Behaviour
31. SI	–	Similarity Index (Turnitin)

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CHAPTER 1

INTRODUCTION

Chapter 1 Introduction

Overview

This chapter provides a comprehensive understanding of the research topic by examining the concept, evolution, and theoretical foundations of subliminal advertising. It discusses the nature, characteristics, applications, advantages, and ethical concerns associated with subliminal advertising, along with its influence on consumer cognition, emotions, brand preference, and purchase intentions. The chapter further reviews the relationship between subliminal advertising and consumer buying behavior, highlighting key theories and empirical studies in the field. Finally, the chapter outlines the chapterisation scheme adopted for the present thesis.

1.1 Background of the study

Advertising has long been recognized as a fundamental driver of consumer behavior, serving as a mechanism through which firms communicate product benefits, build brand equity, and influence purchasing decisions. Over the decades, the landscape of advertising has evolved from simple product promotion to sophisticated strategies integrating psychological, sociological, and technological insights (Kotler & Keller, 2016). Traditional advertising approaches largely relied on overt messages designed to capture consumer attention and motivate rational decision-making. However, with increasing media saturation and consumer exposure to a multitude of marketing stimuli, firms have explored subtler methods to influence consumer perceptions and choices. One such method is **subliminal advertising**, which refers to the presentation of stimuli below the threshold of conscious awareness, intended to influence attitudes, feelings, and behaviour without overt recognition by the consumer (Moore, 1982). This form of advertising raises important theoretical, empirical, and ethical questions, particularly regarding the mechanisms by which nonconscious processes can shape consumer preferences and purchasing patterns.

The historical roots of subliminal advertising trace back to mid-twentieth century experiments and public controversies. A landmark event that sparked widespread attention was James Vicary's 1957 claim that subliminal messages flashed during movie screenings, such as “Drink Coca-Cola” and “Eat Popcorn,” could dramatically increase sales of these products (Moore, 1982). Although subsequent investigations revealed methodological flaws

and exaggerations in Vicary's claims, the study catalyzed extensive research into the effects of stimuli that bypass conscious perception. Psychologists and marketing scholars began to examine subliminal perception, exploring how stimuli too brief or faint to be consciously registered could nonetheless activate cognitive and affective processes, influencing decision-making. The concept of subliminal influence became intertwined with broader inquiries into the distinction between conscious and unconscious processing, dual-system cognition, and the subtle determinants of consumer choice (Kahneman, 2011; Bargh & Chartrand, 1999).

Psychological foundations of subliminal advertising are deeply embedded in cognitive and affective theories. Dual-process models of cognition, particularly Kahneman's (2011) conceptualization of System 1 (fast, automatic, unconscious) and System 2 (slow, deliberate, conscious), provide a framework for understanding how subliminal cues can shape behaviour without conscious deliberation. Subliminal stimuli primarily engage System 1 processes, activating associative networks and priming cognitive constructs that influence attitudes and preferences. Priming research demonstrates that exposure to specific words, images, or symbols can facilitate the accessibility of related mental representations, thereby biasing subsequent judgments and choices (Bargh, Chen, & Burrows, 1996). Furthermore, distinctions between explicit and implicit memory systems underscore that prior exposure, even when not consciously remembered, can affect subsequent behaviour (Schacter, 1987). These mechanisms suggest that subliminal cues can subtly influence brand evaluation, purchase intention, and choice architecture, particularly when aligned with existing consumer motivations or needs.

Consumer buying behaviour is inherently multifaceted, encompassing cognitive, affective, social, and cultural dimensions. Classical models, such as Engel-Kollat-Blackwell (EKB) and Howard-Sheth, conceptualize consumer decision-making as a sequential process involving problem recognition, information search, evaluation of alternatives, purchase, and post-purchase evaluation (Schiffman & Kanuk, 2010). Within these models, conscious deliberation, motivation, and attitude formation are critical determinants of choice. However, contemporary research emphasizes the role of nonconscious factors, heuristics, and affective processes in shaping consumer decisions (Dholakia et al., 2010). This broader understanding positions subliminal advertising as a potentially influential force that can interact with both conscious evaluation and unconscious biases to affect consumer behaviour. For example, subliminal exposure to positive imagery associated with a brand can enhance the likelihood of selecting that brand, even in competitive contexts where multiple alternatives are considered.

Empirical studies examining the effectiveness of subliminal advertising provide a complex and nuanced picture. Laboratory experiments have demonstrated that subliminal stimuli can influence perceptual judgments, affective evaluations, and implicit preferences (Kunst-Wilson & Zajonc, 1980). However, these effects are often context-dependent and sensitive to factors such as individual differences, task relevance, and the motivational state of the consumer. Meta-analytic studies indicate that while subliminal cues can produce measurable effects, these effects are typically small and may be contingent upon congruence between the subliminal message and the consumer's goals (Trappey, 1996). Moreover, the real-world applicability of laboratory findings is constrained by the complexity of consumer environments, where multiple competing stimuli, distractions, and deliberative processes interact to shape behaviour. Consequently, scholars increasingly advocate for research that situates subliminal advertising within realistic consumer contexts, integrating psychological, sociocultural, and technological perspectives.

The advent of digital media has amplified opportunities for subliminal influence. Online platforms, social media, mobile applications, and interactive advertisements enable the embedding of subtle cues in ways that are difficult for consumers to consciously detect. Techniques include rapid image flashes, background audio cues, micro-messaging, and contextually embedded visual stimuli (Goldstein, Cialdini, & Griskevicius, 2008). In addition, algorithmically tailored advertising, which leverages user data to optimize exposure to implicit messages, highlights the growing sophistication of subliminal strategies in the digital age. This convergence of technology and psychology underscores the importance of understanding subliminal advertising not merely as a theoretical construct but as a practical concern with implications for consumer autonomy, marketing effectiveness, and regulatory oversight.

Ethical and legal considerations occupy a central place in discussions of subliminal advertising. Ethical concerns revolve around consumer autonomy, informed choice, and potential manipulation (AMA, 2013). Critics argue that subliminal techniques bypass conscious deliberation and may undermine rational decision-making, raising moral questions about the legitimacy of covert influence. Legally, many jurisdictions have imposed restrictions or guidelines on subliminal advertising. For example, the Federal Communications Commission (FCC) in the United States has issued directives warning against the use of subliminal messages in broadcast media, citing potential deception or unfair influence (Olson & Thjørmøe, 2003). Despite regulatory frameworks, enforcement is often challenging, particularly with the proliferation of digital and personalized advertising,

which allows subliminal cues to be embedded within interactive and user-specific content. These ethical and legal debates are further complicated by empirical findings suggesting that unconscious influence is ubiquitous in advertising, making the distinction between overt and covert persuasion less clear-cut.

Within the Indian advertising landscape, the rapid expansion of media channels and consumer markets has catalyzed innovation in persuasive communication. India's advertising industry, characterized by linguistic and cultural diversity, increasingly employs strategies designed to appeal to both rational and affective aspects of consumer decision-making (Prasad & Dev, 2000). Research indicates that the effectiveness of advertising in India is influenced by cultural congruence, social norms, emotional resonance, and regional identity. In such a pluralistic context, the potential effects of subliminal advertising merit scholarly attention, as marketers navigate diverse cognitive, cultural, and emotional landscapes to influence consumer preferences and behaviours.

The state of Gujarat provides a particularly relevant context for this study. Gujarat, known for its industrial dynamism and entrepreneurial culture, represents a microcosm of Indian consumer diversity, encompassing urban sophistication and rural traditionalism. Urban centres such as Ahmedabad, Surat, and Vadodara feature high media penetration, retail sophistication, and brand consciousness, while rural areas demonstrate distinct consumption patterns shaped by social networks, local traditions, and regional cultural norms. Previous studies on consumer behaviour in Gujarat have highlighted the interplay of socio-cultural values, economic aspirations, and marketing exposure in determining purchase decisions (Sharma & Patel, 2018). In this environment, the subtle influence of subliminal advertising could interact with regional consumer traits, media consumption patterns, and brand perceptions to shape purchasing behaviour, providing a rich avenue for empirical investigation.

Despite extensive research on advertising and consumer behaviour globally, gaps remain regarding the mechanisms and outcomes of subliminal advertising in the Indian context, particularly at the regional level. Most studies have focused on Western markets, laboratory experiments, or theoretical models, with limited exploration of subliminal influence on actual purchasing behaviour among Indian consumers. In Gujarat, empirical research on consumer perception, brand attitudes, and decision-making provides a foundation, yet the specific role of subliminal stimuli in influencing these outcomes remains underexplored. Moreover, existing studies often neglect the interaction between unconscious influence and cultural, linguistic, and socio-economic factors that characterize Indian consumer markets.

Understanding these dynamics is critical for both academic advancement and practical implications in marketing strategy, regulatory policy, and ethical advertising practice.

To summarize, the effect of subliminal advertising on consumer buying behaviour represents a multidisciplinary nexus of psychological, marketing, and ethical inquiry. Theoretical foundations in cognitive psychology and consumer behaviour suggest plausible mechanisms through which subliminal cues can influence attitudes, perceptions, and choice. Empirical evidence indicates that these effects are context-sensitive, often subtle, and modulated by motivational and cognitive factors. In the Indian context, and specifically in Gujarat, the interplay of cultural, economic, and media dynamics provides a unique environment to study these effects. By integrating international literature, Indian studies, and regional insights, this study aims to address a critical gap in understanding how subliminal advertising may shape consumer decision-making in a rapidly evolving marketing ecosystem. The findings are expected to contribute to theoretical knowledge, inform ethical advertising practices, and provide practical guidance for marketers seeking to engage consumers responsibly and effectively.

1.2 Need for Subliminal Advertising

The need for subliminal advertising in contemporary marketing discourse arises from the intersection of several converging forces in consumer psychology, media proliferation, information processing, and competitive business environments. Traditional advertising strategies, which rely primarily on conscious attention and rational evaluation by consumers, have achieved measurable success in many contexts; however, as markets become increasingly saturated with promotional messages and consumers develop heightened resistance to overt persuasion, scholars and practitioners have sought deeper insights into the subtler determinants of consumer choice. This shift aligns with the broader evolution of psychological theory, particularly dual-process models of cognition such as the work of Kahneman (2011), which distinguish between System 1 (automatic, fast, unconscious) and System 2 (deliberate, slow, conscious) thinking processes. Under this framework, it becomes evident that a significant portion of human behaviour—including consumer choice—occurs outside conscious awareness, mediated by automatic associations, heuristics, and implicit memory networks (Bargh & Chartrand, 1999). Subliminal advertising, which presents stimuli below the threshold of conscious perception, is theorized to engage these automatic processes, thereby amplifying the need to understand its potential impact and utility in

influencing consumer attitudes and behaviour. The behavioral sciences have long recognized that much of cognition operates without direct conscious oversight. Seminal research in implicit memory and priming demonstrates that stimuli encountered without conscious awareness can nonetheless influence subsequent judgments, evaluations, and behavior (Schacter, 1987). For instance, the work of Kunst-Wilson and Zajonc (1980) showed that subliminally presented stimuli could affect affective preferences even when participants denied awareness of exposure. Such findings underscore why marketing researchers see value in exploring subliminal cues: because they tap into underlying mental processes that traditional advertising may overlook. From a consumer behaviour perspective, the capacity of subliminal stimuli to enhance memory accessibility, activate semantic networks, and shape affective responses without explicit awareness presents an opportunity to influence brand associations and purchase intentions in ways that complement overt advertising efforts. This theoretical grounding forms a critical part of the rationale for investigating subliminal advertising as both a conceptual construct and applied strategy.

Another dimension of the need for subliminal advertising emerges from the changing landscape of media consumption. With the proliferation of digital media, social networking platforms, mobile technologies, and streaming services, consumers are exposed to an unprecedented volume of content daily. This deluge of information has resulted in “advertising clutter,” whereby individual promotional messages compete for limited consumer attention (Pieters, Wedel, & Batra, 2010). Under conditions of high information load, consumers often develop selective attention strategies, consciously tuning out traditional ads through skimming, ad blockers, fast forwarding, and cognitive avoidance (Wedel & Pieters, 2008). In this environment, marketers face the challenge of capturing attention without adding to the cognitive burden of the consumer. Subliminal advertising offers a theoretical pathway to embed messages in ways that do not demand active attention but still influence consumer cognition. The notion here is not to replace conscious advertising but to complement it by reinforcing brand cues and affective associations when overt attention is limited or unavailable. The integration of insights from neuroscience has further strengthened the argument for examining subliminal advertising. Advances in neuroimaging and electrophysiological methods have made it possible to observe brain responses to stimuli presented below conscious thresholds, illuminating the neural correlates of unconscious perception. Research using functional magnetic resonance imaging (fMRI) has shown that subliminal stimuli can activate brain regions associated with affective processing, such as the amygdala, even when participants report no conscious awareness of the stimulus (Whalen et

al., 1998). These neuroscientific findings lend credence to the idea that nonconscious processes can influence emotional and evaluative judgments, which are integral to consumer decision-making. The appeal of subliminal advertising, in this sense, lies in its potential to leverage these neural pathways to establish or reinforce preferences, particularly when consumers are overwhelmed by the sheer volume of messages in digital environments.

Moreover, consumer decision trends in highly competitive markets amplify the interest in subliminal strategies. Markets characterized by commoditization and minimal differentiation compel brands to find subtle ways to remain cognitively salient to consumers. In such contexts, even small advantages in memory accessibility or affective valence can translate into market share gains. The cognitive psychology literature suggests that repeated exposure—even when below conscious awareness—can strengthen associative links in memory and increase familiarity, which in turn enhances liking and preference (Zajonc, 1968). Thus, the potential of subliminal stimuli to contribute to these processes offers a compelling reason for marketers and researchers to study its effects. A growing body of marketing research supports the role of familiarity and repeated cue exposure in shaping brand preference, and subliminal advertising is conceptualized within this broader framework of memory and association. The changing dynamics of consumer involvement and motivation also contribute to the perceived need for subliminal advertising. Traditional models of consumer behaviour often assume a rational, deliberative decision-maker who carefully evaluates options based on features, benefits, and cost-benefit calculations. However, real-world decisions are frequently heuristic, influenced by affect, context, and implicit biases (Dholakia et al., 2010). In purchase situations involving low involvement or habitual buying, consumers rely less on conscious deliberation and more on automatic preferences and cues. Subliminal advertising may be particularly relevant in these scenarios, where overt persuasion is less effective and nonconscious influences drive choices. By strategically embedding subliminal cues that resonate with motivational states, marketers aim to align their messaging with consumers' implicit preferences, thereby facilitating decision outcomes that favour the brand.

A related consideration is the role of subliminal advertising in shaping attitudes and affective responses in emotionally charged purchase contexts. Emotions play a crucial role in consumer decisions, often guiding preferences before conscious reasoning occurs (Pham, 2004). Affective conditioning, whereby a neutral stimulus becomes liked or disliked through association with positive or negative stimuli, is a mechanism by which subliminal messages may influence consumer attitudes (De Houwer, Thomas, & Baeyens, 2001). For example,

subliminally associating a brand with positive imagery or affective cues could enhance consumers' emotional evaluations of that brand, which subsequently impacts their likelihood of purchase. This interplay between unconscious affective processing and consumer preference highlights the theoretical need to explore subliminal advertising as a potential driver of emotional branding outcomes. Furthermore, the competitive pressures of global markets and rapid technological change have encouraged marketers to innovate beyond traditional persuasion techniques. With brands vying for consumer attention across cluttered media spaces, the integration of subliminal elements in advertising content is sometimes viewed as a means of reinforcing brand messages without overloading the audience. Digital environments, in particular, support rapid image transitions, embedded audio cues, interactive visuals, and personalized content delivery—tools that theoretically can carry subliminal elements. While the ethical and legal implications of such practices remain contentious, the technological feasibility and theoretical promise of integrating subliminal components have driven scholarly inquiry into their effects. Research on consumer responses to dynamic and complex digital stimuli suggests that nonconscious processing plays a substantive role in shaping attitudes towards content and brand cues, thereby reinforcing the need to understand subliminal mechanisms within modern media ecosystems. Parallel to technological and cognitive considerations, the debate over consumer autonomy and persuasion ethics compels academic attention to subliminal advertising. Critics argue that subliminal techniques bypass consumers' conscious choice architecture, potentially undermining autonomy and informed decision-making (AMA, 2013). This ethical dimension does not diminish the need to study subliminal advertising; rather, it intensifies it, because understanding the mechanisms and boundaries of subliminal influence is essential for establishing ethical guidelines and regulatory frameworks. In other words, the need for subliminal advertising research is not only practical but also normative: scholars must delineate where influence ends and manipulation begins, particularly in contexts where consumer welfare and autonomy are at stake. Such ethical scrutiny aligns with broader concerns in marketing about the responsibilities of firms to respect consumer rights while pursuing competitive advantage. Empirical research in various cultural contexts further underscores the necessity of exploring subliminal advertising effects. Studies have shown that cultural norms, cognitive styles, and media consumption patterns shape how consumers process persuasive messages, including those presented below conscious awareness. For instance, research on cross-cultural differences in implicit cognition suggests that cultural frameworks influence the salience and interpretation of nonconscious cues, which in turn affects persuasive outcomes (Nisbett,

2003). This cultural variability implies that the need for subliminal advertising research must account for heterogeneous consumer populations, especially in culturally diverse markets. In emerging economies, where traditional and modern media intersect and consumer behaviours are rapidly evolving, understanding how subliminal cues interact with local cognitive and cultural schemas is imperative for both theory and practice. In addition, market segmentation and individual differences in susceptibility to nonconscious influences contribute to the need for subtler advertising techniques. Psychological research has identified individual traits, such as need for cognition, self-monitoring, and cognitive complexity, that moderate responses to persuasive messages (Cacioppo & Petty, 1982). Individuals with lower involvement or lower cognitive elaboration may be more influenced by peripheral cues, including subliminal stimuli, compared to highly engaged consumers. From a strategic perspective, understanding how different segments respond to subliminal and conscious cues can help marketers tailor integrated campaigns that optimize message impact across diverse consumer groups. This segmentation perspective reinforces that subliminal advertising research should not be viewed as a monolithic inquiry but as part of a nuanced effort to map the gradient of conscious and nonconscious influences on behaviour.

Ultimately, the need for subliminal advertising research reflects a broader recognition that consumer decision making is multifaceted, involving not only rational deliberation but also automatic, affective, and contextual processes. The limitations of traditional advertising in capturing and sustaining consumer attention in cluttered media environments, coupled with advances in cognitive and neuroscientific understanding of nonconscious processing, make subconscious influence a compelling area of study. Whether the goal is to enhance brand recall, reinforce affective associations, or understand the ethical boundaries of persuasive communication, subliminal advertising occupies a significant place in the contemporary dialogue on marketing effectiveness. As scholars continue to refine theories of implicit processing and as technology evolves to create new media spaces, the need to explore subliminal advertising—and its implications for consumer welfare and marketing strategy—remains both urgent and theoretically rich.

1.3 Ways to implement Subliminal Advertising

Subliminal advertising, characterized by stimuli presented below the threshold of conscious awareness, offers marketers a means to influence consumer behaviour subtly, yet effectively, by engaging nonconscious cognitive and affective processes. The implementation of

subliminal advertising is deeply grounded in psychological theory, neuroscience, and communication studies, which collectively provide guidance on the mechanisms, contexts, and strategies that maximize its potential impact. Historically, early experiments in subliminal perception established the plausibility of subconscious influence, indicating that brief or faint stimuli could activate neural pathways, shape attitudes, and influence decisions without overt awareness (Kunst-Wilson & Zajonc, 1980). These foundational studies underscored the importance of carefully calibrating the presentation of stimuli, the content and valence of messages, and the timing and context of delivery in order to elicit measurable effects. Consequently, the development of implementation strategies has relied on both theoretical insights from cognitive psychology and empirical findings from experimental and field research in advertising, consumer behaviour, and neuromarketing. One primary avenue for implementing subliminal advertising is through visual stimuli embedded within print, video, or digital media, where images or text are inserted so briefly or subtly that they escape conscious recognition. Research in perception indicates that the human visual system can process stimuli in milliseconds, even when individuals report no conscious awareness of seeing them (Greenwald, Draine, & Abrams, 1996). For instance, advertisers may embed brand logos, product images, or persuasive words within the frames of a video or the background of a digital banner for durations that do not reach conscious detection thresholds. This approach leverages the principle of priming, whereby repeated or contextually relevant exposure increases the accessibility of associated cognitive constructs, thereby influencing subsequent evaluation and choice (Bargh, Chen, & Burrows, 1996). Experimental studies suggest that the efficacy of such interventions is enhanced when subliminal images are congruent with the consumer's existing motivations, needs, or emotional states, highlighting the need for careful audience segmentation and targeting in implementation (Trappey, 1996). In addition to visual embedding, auditory subliminal techniques constitute another pathway for influencing consumers below conscious awareness. Such techniques include embedding low-volume messages, backward masking, or rapid auditory cues within music, radio, or digital content. Theoretical work in auditory perception posits that even when messages are not consciously detected, they can influence associative networks and affective responses, particularly when linked to emotionally salient stimuli (Greenwald et al., 1991). For example, researchers have demonstrated that positive verbal cues or brand-related phrases delivered subliminally can prime consumers' affective states, increasing liking for associated products without overt recognition. Implementation in auditory media necessitates consideration of volume, frequency, and context to avoid perceptible detection while ensuring alignment with

broader marketing objectives. The integration of auditory subliminal cues with congruent visual stimuli can produce multimodal effects, reinforcing brand associations through parallel processing channels and enhancing the likelihood of influence (Pratkanis & Greenwald, 1988).

Digital and interactive media have significantly expanded the possibilities for subliminal advertising. The proliferation of high-resolution screens, sophisticated algorithms, and personalized content delivery allows marketers to tailor subtle cues in ways that align with individual preferences and online behaviour. Techniques in this domain include the insertion of micro-flashes, rapid image transitions, background brand motifs, and interactive stimuli within websites, mobile applications, and social media feeds. Cognitive and media psychology studies highlight that digital environments afford precise temporal control over stimulus presentation, enabling advertisers to exploit nonconscious processing mechanisms with high accuracy (Goldstein, Cialdini, & Griskevicius, 2008). Moreover, the integration of artificial intelligence and behavioral tracking allows for dynamic adaptation of subliminal cues to optimize engagement and brand salience, suggesting that the future of implementation is likely to involve algorithmically mediated personalization. These advances require marketers to balance technical sophistication with ethical considerations, ensuring that consumer autonomy is not compromised while maximizing engagement efficacy. Another critical consideration in implementing subliminal advertising is contextual congruence. Research in consumer psychology emphasizes that subliminal messages are most effective when embedded in contexts that are consistent with consumers' cognitive and affective frameworks (Dholakia et al., 2010). For example, subliminal cues associated with food brands may be more effective when presented in media related to dining, cooking, or lifestyle content, thereby leveraging relevance to enhance priming effects. Similarly, emotionally congruent contexts—such as embedding romantic or aspirational brand cues within entertainment content—can amplify unconscious affective responses. Contextual congruence extends to cultural, linguistic, and demographic alignment, with studies indicating that subliminal messaging is more effective when it resonates with prevailing cultural schemas and consumer values (Nisbett, 2003). In the Indian context, and specifically in regions like Gujarat, implementation strategies must account for language, symbolism, and cultural motifs to ensure that subliminal cues are both culturally salient and cognitively accessible to the target audience.

Frequency and repetition are also pivotal in the implementation of subliminal advertising. Cognitive research demonstrates that repeated exposure, even below conscious awareness,

strengthens associative networks in memory and enhances familiarity, which in turn influences preference and choice (Zajonc, 1968). Consequently, successful implementation strategies often involve multiple, strategically timed exposures to subliminal cues across media touchpoints, creating reinforcement loops that solidify brand associations over time. Such repetition must be carefully calibrated to avoid conscious detection, which could trigger skepticism or resistance. Empirical evidence from both laboratory and field studies suggests that incremental exposure, interspersed with consciously perceivable messages, can maximize subliminal impact while maintaining credibility and audience engagement (Trappey, 1996).

The integration of multisensory subliminal cues represents an advanced strategy for implementation, leveraging the simultaneous activation of visual, auditory, and even tactile channels to enhance processing and retention. Neuromarketing research demonstrates that multisensory stimuli can increase emotional arousal, attentional engagement, and memory consolidation, thereby reinforcing unconscious brand associations (Plassmann, Ramsøy, & Milosavljevic, 2012). For instance, combining a brief subliminal image with a faint auditory cue congruent with the product message can create synergistic effects, amplifying the likelihood that the cue influences subsequent attitudes and purchase intentions. Implementation of multisensory subliminal strategies requires precise control of temporal alignment, modality-specific thresholds, and contextual relevance to ensure that stimuli remain below conscious detection while eliciting measurable effects. Such sophisticated approaches reflect the convergence of psychological theory, media technology, and marketing practice in contemporary subliminal advertising.

Strategic placement and integration within content narratives further enhance the effectiveness of subliminal advertising. Rather than presenting cues in isolation, embedding them seamlessly within narrative structures—such as storylines in films, television, digital series, or interactive games—facilitates incidental exposure and reinforces implicit learning (Greenwald & Leavitt, 1984). Narrative integration exploits the human tendency to encode information contextually and emotionally, ensuring that subliminal messages are processed in conjunction with affective and cognitive frameworks relevant to the brand or product. For example, embedding subliminal brand cues within a positive narrative arc or emotionally resonant scene can enhance both memory accessibility and affective association, increasing the likelihood of unconscious influence. This narrative-based implementation aligns with consumer behaviour research emphasizing the importance of experiential, affect-laden media exposure in shaping attitudes and intentions (Pham, 2004).

The ethical deployment of subliminal advertising is also a crucial component of implementation strategies. Ethical frameworks emphasize transparency, respect for consumer autonomy, and avoidance of manipulative practices (AMA, 2013). While subliminal cues operate below conscious awareness, practitioners must design campaigns in ways that enhance consumer engagement without undermining informed choice. For example, subliminal stimuli can be employed to reinforce positive emotional associations with products, improve memorability, or subtly emphasize product benefits, without coercive intent. Regulatory compliance further informs implementation, as many jurisdictions impose restrictions or guidelines to prevent deceptive or unfair advertising practices. Consequently, effective implementation strategies incorporate both psychological and legal considerations, ensuring that subliminal advertising is both scientifically grounded and socially responsible.

Targeting strategies are essential for optimizing subliminal advertising efficacy. Research on individual differences in susceptibility to nonconscious cues indicates that factors such as motivation, involvement, affective state, and cognitive style moderate responses to subliminal messages (Cacioppo & Petty, 1982). Implementation thus benefits from segmenting audiences and tailoring subliminal cues to specific consumer profiles. For instance, high-involvement consumers may respond more effectively to cues embedded within relevant product information, while low-involvement consumers may be influenced by affective or associative primes. Geographic and demographic segmentation, particularly in culturally diverse regions like Gujarat, further refines targeting, ensuring that subliminal messages are appropriately aligned with linguistic, symbolic, and social contexts.

Finally, contemporary digital marketing environments provide data-driven opportunities for implementing subliminal advertising. Behavioral analytics, eye-tracking studies, clickstream analysis, and engagement metrics allow marketers to test, optimize, and personalize subliminal cues in real-time. Machine learning algorithms can identify the most effective modalities, durations, and placements for subliminal stimuli, facilitating iterative improvement and maximizing impact while maintaining ethical boundaries. Integration with A/B testing, neurophysiological measures, and psychometric assessments enables the systematic evaluation of subliminal strategies, ensuring that implementation is evidence-based and scientifically validated (Plassmann et al., 2012). These advances underscore the potential of subliminal advertising as a carefully calibrated, data-informed component of broader marketing campaigns.

1.4 Objective of Subliminal Approach in Advertising:

The objective of the subliminal approach in advertising is to influence consumers' attitudes, perceptions, and behavioral intentions by transmitting persuasive stimuli below the level of conscious awareness. Marketing and consumer-behavior literature emphasizes that subliminal messages function by appealing to the subconscious mind, where emotions, motivations, and associative memories shape decision-making processes. According to Philip Kotler and Kevin Lane Keller, advertising effectiveness often depends on the creation of deep psychological associations that may not always be consciously processed by consumers. Subliminal techniques aim to embed subtle cues—such as images, words, sounds, and symbols—into advertisements so that individuals internalize brand-related meanings without actively recognizing the persuasive attempt (Kotler & Keller, 2016). The objective is therefore not limited to awareness generation but extends to shaping implicit attitudes, strengthening brand recall, and encouraging favorable purchase intentions over time. Scholars such as David Aaker argue that brand equity is built through repeated exposure and emotional association, and subliminal cues can reinforce these associations at a subconscious level. By bypassing cognitive defenses and critical evaluation, subliminal advertising attempts to reduce resistance to persuasion and enhance receptivity to brand messages (Aaker, 1996). Similarly, Del Hawkins notes that consumer behavior is influenced by both conscious and unconscious processing, where subtle stimuli can prime preferences, shape perceptions, and guide decision-making without explicit awareness (Hawkins & Mothersbaugh, 2010). This aligns with the psychological objective of subliminal advertising—to activate latent needs, desires, and emotional responses that may later translate into consumption behavior.

Early experimental research by Joel M. Trappey suggested that subliminal stimuli can influence attitudes and memory under certain conditions, particularly when exposure is repeated and contextually relevant (Trappey, 1996). Furthermore, cognitive psychology literature, including work by John A. Bargh, highlights the concept of automaticity, where environmental cues can unconsciously trigger behavioral responses and goal-oriented actions (Bargh, 2002). In advertising contexts, this objective translates into priming consumers toward specific brands, emotions, or lifestyle associations without overt persuasion. Another important objective of subliminal advertising is to create cumulative and long-term psychological effects rather than immediate behavioral change. Repeated exposure to subtle messages can gradually shape attitudes, reinforce brand familiarity, and enhance emotional

bonding between the consumer and the brand. This is particularly relevant in modern digital environments, where visual micro-cues, background imagery, and algorithm-driven personalization are used to subtly guide consumer engagement. Additionally, subliminal advertising aims to stimulate impulse buying by activating emotional triggers such as aspiration, pleasure, fear, or attraction, which operate at the subconscious level and influence spontaneous decision-making.

Ethical discourse in academic literature also identifies a controversial objective of subliminal advertising: its ability to operate without consumers' conscious awareness, thereby minimizing skepticism and resistance. While its effectiveness remains debated, scholars widely agree that subliminal strategies seek to complement traditional advertising by strengthening psychological impact, enhancing brand positioning, and influencing attitudes and intentions indirectly. Overall, the subliminal approach in advertising is designed to shape consumer cognition and behavior through subconscious engagement, emotional conditioning, and implicit persuasion, ultimately supporting brand recognition, preference formation, and purchase behavior within a competitive marketplace.

1.5 Role of emotions in subliminal Advertising:

Emotions play a pivotal role in consumer decision-making, influencing preferences, attitudes, and behavior in ways that often operate below the level of conscious awareness. In the context of subliminal advertising, understanding the interplay between emotional responses and nonconscious processing is essential, as it forms the theoretical foundation for the efficacy of subtle persuasive techniques. Classical models of consumer behavior emphasized rational, deliberative decision-making, suggesting that individuals evaluated products and services primarily through conscious assessment of features, benefits, and costs (Engel, Blackwell, & Miniard, 1995). However, contemporary research recognizes that emotions profoundly shape attitudes and purchase intentions, often acting as mediators between exposure to advertising stimuli and consumer behavior (Pham, 2004). Subliminal advertising leverages this emotional dimension by presenting affective cues below the threshold of conscious perception, thereby influencing consumer responses without direct awareness, which can enhance the subtlety, efficiency, and effectiveness of marketing efforts. Psychological theories provide a robust framework for understanding the mechanisms through which subliminal advertising influences emotion-driven consumer behavior. Dual-process theories of cognition, particularly Kahneman's (2011) distinction between System 1

and System 2 processing, suggest that emotional reactions often originate in the automatic, nonconscious System 1. This system rapidly evaluates stimuli based on prior experiences, heuristics, and associative memory networks, generating affective responses that shape attitudes and choices before deliberative reasoning occurs. Subliminal stimuli, by definition, are processed at this nonconscious level, allowing advertisers to activate emotional responses that predispose consumers toward particular products or brands without engaging the reflective, conscious System 2. Experimental studies in affective neuroscience have shown that subliminally presented emotional cues can activate brain regions associated with affective processing, such as the amygdala and orbitofrontal cortex, even in the absence of conscious awareness (Whalen et al., 1998). These neural activations underpin the capacity of subliminal advertising to shape consumer attitudes and influence behavior through emotional pathways.

Emotions in subliminal advertising function as both direct and indirect determinants of consumer behavior. Directly, affective responses elicited by subliminal cues can influence brand evaluations, purchase intentions, and decision-making processes. For instance, exposure to subliminally presented positive imagery or words associated with a brand can increase consumers' affective preference for that brand, enhancing the likelihood of purchase (Kunst-Wilson & Zajonc, 1980). Indirectly, emotions operate as mediators between subliminal exposure and cognitive evaluations, such that nonconscious affective responses influence subsequent conscious judgments about products. Research in affective priming indicates that positive or negative emotional associations elicited by subliminal stimuli can bias the interpretation of consciously presented information, highlighting the interconnectedness of emotional and cognitive processes in consumer behavior (De Houwer, Thomas, & Baeyens, 2001). This dual influence underscores the centrality of emotions in understanding the theoretical and practical significance of subliminal advertising. The efficacy of emotional influence in subliminal advertising is also contingent upon the nature and intensity of the emotional cues used. Emotional valence (positive or negative) and arousal (intensity) are critical factors determining the strength and direction of consumer responses. Positive subliminal cues, such as images of happy faces, warm colors, or aspirational lifestyle representations, have been shown to enhance liking and approach behaviors toward associated brands, while negative cues can induce avoidance or decreased preference (Pham, 2004). Moreover, the intensity of the emotional signal interacts with individual differences in sensitivity to affective stimuli, moderating the impact of subliminal advertising. Individuals high in affective responsiveness are more likely to exhibit strong

behavioral responses to subliminal emotional cues, whereas those with lower sensitivity may require more salient or repeated exposure for a measurable effect (Cacioppo & Berntson, 1994). Therefore, effective implementation of subliminal advertising necessitates careful selection of emotional content, calibrated to the target audience and marketing objectives.

Consumer motivation and context further modulate the role of emotions in subliminal advertising. Motivated consumers, who have existing goals or interests related to a product category, are more susceptible to subliminal emotional cues, as these cues resonate with their preexisting affective and cognitive frameworks (Trappey, 1996). Conversely, in low-motivation contexts, emotional subliminal cues may exert weaker influence unless they are highly salient or paired with contextual relevance. The alignment of emotional content with situational context enhances processing fluency, which facilitates the integration of subliminal cues into implicit attitudes and subsequent decision-making. For example, subliminal messages promoting health products may be more effective when embedded within content related to wellness or fitness, allowing emotions associated with aspiration, vitality, or well-being to reinforce the intended brand message. This contextual sensitivity illustrates the importance of a nuanced, audience-centered approach to implementing emotion-based subliminal advertising.

The interplay between emotions and subliminal advertising extends to brand perception and attitude formation. Emotions serve as heuristic shortcuts, guiding consumer judgments and reducing cognitive load in complex decision-making environments (Pham, 2004). Subliminal exposure to affective cues can enhance the perceived attractiveness, trustworthiness, or desirability of a brand without the consumer consciously recognizing the influence. Empirical studies in implicit cognition and affective priming demonstrate that these emotional effects can persist over time, influencing memory recall, brand salience, and future purchase behavior (Greenwald, Draine, & Abrams, 1996). The persistence of emotion-driven subliminal influence is particularly relevant in highly competitive markets, where repeated subtle reinforcement of positive affect toward a brand can cumulatively shape consumer preferences and drive long-term brand loyalty. Neuroscientific and psychophysiological research provides further insights into the mechanisms underlying emotion-based subliminal advertising. Functional magnetic resonance imaging (fMRI) and event-related potential (ERP) studies indicate that subliminally presented emotional stimuli activate the amygdala and associated limbic structures involved in affective evaluation and reward processing, independent of conscious recognition (Whalen et al., 1998; Morris et al., 1998). Such activation facilitates approach or avoidance behaviors by modulating attentional resources,

memory encoding, and subsequent decision-making. Moreover, research in neuroeconomics suggests that these affective responses influence valuation processes, shaping perceived product desirability and willingness to pay, even in the absence of conscious deliberation (Plassmann, O'Doherty, Shiv, & Rangel, 2008). This body of evidence underscores the centrality of emotional processing as the mechanism through which subliminal advertising exerts influence on consumer behavior, highlighting its theoretical and practical relevance.

Emotional engagement is particularly potent in digital and multimedia environments, where the rapid presentation of visual and auditory cues can trigger unconscious affective responses. In online contexts, micro-flashes of imagery, subtle color manipulations, and background auditory cues can evoke emotional states that predispose consumers toward specific products or brands (Goldstein, Cialdini, & Griskevicius, 2008). Social media platforms and interactive applications provide additional channels for embedding emotional subliminal cues within user-generated content, immersive experiences, and personalized feeds. This integration of emotion and interactivity amplifies engagement and creates conditions in which nonconscious affective responses influence user behavior, demonstrating the practical utility of understanding emotions in the design of subliminal advertising campaigns. The role of emotions in subliminal advertising is also moderated by ethical considerations. While emotional cues can enhance persuasion, marketers must ensure that these techniques do not manipulate or exploit vulnerable populations, such as children or individuals with low media literacy. Ethical frameworks, including the American Marketing Association's guidelines, emphasize the responsibility of marketers to respect consumer autonomy, provide transparency, and avoid deceptive practices (AMA, 2013). Consequently, the implementation of emotion-based subliminal advertising requires balancing effectiveness with ethical constraints, ensuring that affective influence is employed responsibly to enhance brand engagement without coercion.

Cultural and individual differences further shape the influence of emotions in subliminal advertising. Cross-cultural studies indicate that the interpretation of emotional cues, the intensity of affective responses, and the susceptibility to subliminal influence vary across societies and consumer segments (Nisbett, 2003). For example, collectivist cultures may respond more strongly to subliminal cues emphasizing social harmony, family, or community, whereas individualist cultures may be more influenced by cues related to personal achievement or self-expression. Similarly, personality traits, affective style, and prior experiences moderate the degree to which subliminal emotional cues influence attitudes and behavior. These findings suggest that effective implementation requires attention to

audience heterogeneity, cultural context, and psychological profiling, highlighting the complexity and sophistication necessary for emotion-driven subliminal advertising strategies.

1.6 Subliminal Advertising and Buying Behaviour:

Subliminal advertising represents a subtle yet significant force in shaping consumer buying behaviour, operating primarily through mechanisms that bypass conscious awareness and engage automatic cognitive and affective processes. The concept of subliminal influence emerged in the mid-twentieth century, gaining attention after James Vicary's controversial claims regarding brief messages in movie theatres purportedly affecting sales of popcorn and soft drinks (Moore, 1982). Although Vicary's claims were later critiqued and methodological flaws identified, his work spurred decades of psychological and marketing research exploring how stimuli presented below the threshold of conscious perception could nonetheless influence attitudes, preferences, and ultimately, purchasing behaviour. The relevance of subliminal advertising to buying behaviour rests on the understanding that consumer choices are influenced not solely by rational deliberation, but by a complex interplay of cognitive, affective, and social factors, many of which operate outside conscious awareness (Kahneman, 2011; Bargh & Chartrand, 1999). As markets have become more saturated and consumers increasingly exposed to competing messages, the role of subliminal cues has gained prominence as a strategic tool for subtly shaping preferences and facilitating decision-making.

Empirical research demonstrates that subliminal stimuli can activate implicit memory networks and prime associative links, influencing consumer attitudes and behavioural intentions even in the absence of conscious recognition (Greenwald, Draine, & Abrams, 1996). Priming studies in cognitive psychology provide robust evidence that repeated exposure to stimuli, even at sub-perceptual levels, enhances accessibility of related concepts, thereby biasing subsequent judgments and preferences (Bargh, Chen, & Burrows, 1996). In the context of buying behaviour, this implies that subliminal advertising can create positive affective associations with a brand, product, or service, which in turn predispose consumers to select that option over alternatives. For example, a subliminally presented image of a popular brand during unrelated media content can increase familiarity and liking, influencing the probability of purchase when consumers encounter the product in retail environments (Kunst-Wilson & Zajonc, 1980, Chavda, 2015). These mechanisms highlight the nonconscious pathways through which advertising can shape purchasing behaviour,

emphasizing the relevance of subliminal strategies in consumer decision-making models. The effect of subliminal advertising on buying behaviour is also mediated by emotional and affective responses, which are critical determinants of consumer choice. Psychological theory emphasizes that emotions influence both the evaluation of alternatives and the decision-making process itself (Pham, 2004, Chavda, 2017). Subliminal cues, by activating affective responses, can bias consumers toward certain products or brands without their conscious awareness. Studies in affective priming indicate that subliminal exposure to emotionally valenced stimuli, such as images conveying happiness or comfort, enhances positive evaluations of associated products, whereas negative valence can reduce preference (De Houwer, Thomas, & Baeyens, 2001). This direct emotional influence is complemented by indirect effects, whereby nonconscious affective responses shape conscious deliberation and brand perception, ultimately guiding purchasing behaviour. In practice, marketers can leverage these findings by embedding emotionally positive subliminal cues into advertisements, digital content, and brand touchpoints, thereby subtly reinforcing the likelihood of consumer engagement and purchase.

Consumer motivation and involvement further modulate the impact of subliminal advertising on buying behaviour. Research suggests that individuals with high motivation or existing interest in a product category are more susceptible to subliminal cues aligned with their goals (Trappey, 1996). Conversely, in low-involvement contexts, subliminal messages may have limited influence unless they are paired with affectively salient stimuli or repeated exposure to enhance familiarity. In high-involvement purchases, subliminal cues can prime relevant product attributes and preferences, facilitating decision-making when consumers are processing multiple alternatives. This interplay between motivation, involvement, and nonconscious influence highlights the contextual sensitivity of subliminal advertising, underscoring the need for careful audience segmentation and message alignment to maximize effectiveness in driving buying behaviour. The relationship between subliminal advertising and buying behaviour is also mediated by perceptual and cognitive processes that govern attention, memory, and decision-making. Studies in implicit cognition reveal that nonconscious exposure to brand-related cues can enhance recognition, recall, and preference even when consumers are unaware of the stimulus (Greenwald et al., 1996). For instance, repeated subliminal exposure to a brand logo or product name increases the likelihood that consumers will retrieve that brand from memory during purchase decisions, particularly in situations involving low cognitive effort or habitual buying. These cognitive effects complement the emotional pathways, creating a multi-layered influence on buying behaviour

where nonconscious priming, affective association, and familiarity interact to bias consumer choice. Such mechanisms illustrate the theoretical foundation for understanding why subliminal advertising can exert measurable effects on purchasing behaviour, even in complex, real-world environments.

Technological advancements in media and digital marketing have expanded the opportunities for implementing subliminal strategies to influence buying behaviour. High-resolution screens, digital video, interactive web content, and personalized advertising enable the precise insertion of brief visual or auditory cues that remain below conscious detection thresholds (Goldstein, Cialdini, & Griskevicius, 2008, Chavda, 2018). In digital environments, algorithmically tailored content allows marketers to adapt subliminal cues in real-time based on user behaviour, preferences, and engagement patterns. Eye-tracking and neuromarketing studies indicate that these micro-targeted cues can enhance attention, engagement, and memory, indirectly shaping buying decisions through both emotional and cognitive pathways (Plassmann, Ramsøy, & Milosavljevic, 2012). These findings suggest that contemporary consumer behaviour is increasingly influenced not only by overt advertising but also by subtle, technologically mediated subliminal interventions, emphasizing the importance of understanding the mechanisms and ethical considerations surrounding such strategies.

Subliminal advertising also interacts with social and cultural factors that shape buying behaviour. Cross-cultural research indicates that the interpretation of nonconscious cues, affective responses, and susceptibility to priming effects vary according to cultural norms, cognitive styles, and social values (Nisbett, 2003). In collectivist cultures, subliminal messages emphasizing social harmony, family, or community may more effectively influence purchase behaviour, whereas in individualist contexts, cues related to personal achievement, self-expression, or status may be more salient. Similarly, demographic factors, prior experiences, and personality traits moderate the degree to which consumers respond to subliminal cues, influencing brand preferences and purchase intentions (Cacioppo & Petty, 1982, Chavda, 2020). For marketers, these insights underscore the importance of tailoring subliminal advertising strategies to the cultural, social, and psychological characteristics of target audiences to enhance their impact on buying behaviour.

Ethical considerations remain central to the discussion of subliminal advertising and its influence on purchasing behaviour. Critics argue that subliminal techniques may manipulate consumer choices without informed consent, raising concerns about autonomy and deception (AMA, 2013). Regulatory frameworks in many countries restrict or provide guidance on the

use of subliminal messages to protect consumers from undue influence. Despite these concerns, research demonstrates that subliminal advertising can be employed ethically, for instance, to enhance consumer engagement, reinforce positive brand associations, and increase the salience of beneficial products without coercion or deception. Ethical implementation involves transparency, audience respect, and alignment with marketing and social responsibility objectives, ensuring that subliminal techniques contribute to informed consumer choice rather than exploit unconscious vulnerabilities.

The influence of subliminal advertising on buying behaviour is particularly evident in studies examining brand loyalty, habitual purchasing, and low-involvement decision contexts. In situations where consumers rely on heuristics or automatic preferences, subliminal cues can prime brand selection, reinforce familiarity, and shape attitudes that guide habitual purchases (Zajonc, 1968). Even subtle exposure to brand imagery, slogans, or auditory cues can create incremental effects that accumulate over time, influencing repeat buying behaviour and enhancing long-term brand equity. Laboratory and field studies confirm that these nonconscious influences are measurable, particularly when combined with conventional advertising strategies, highlighting the complementary role of subliminal messaging in shaping consumer behaviour. Moreover, the integration of emotional, cognitive, and contextual mechanisms provides a comprehensive understanding of how subliminal advertising affects buying behaviour. Emotions elicited by subliminal cues generate immediate affective responses, cognitive priming enhances brand accessibility and memory, and contextual alignment ensures that cues resonate with situational and cultural factors. Together, these mechanisms create a multi-dimensional influence that shapes purchase intentions, product evaluations, and actual buying behaviour. By leveraging these pathways, marketers can subtly guide consumer choices, enhance brand engagement, and optimize the effectiveness of integrated advertising campaigns. Research indicates that the cumulative impact of subliminal exposure, particularly when strategically designed and ethically implemented, can meaningfully influence consumer buying patterns, reinforcing the importance of understanding subliminal advertising as a driver of behavior in both theoretical and practical contexts.

1.7 Subliminal Advertising Effectiveness:

Subliminal advertising, as a unique form of marketing communication, has garnered extensive scholarly attention due to its potential to influence consumer cognition, emotion,

and behavior without conscious awareness. The effectiveness of subliminal advertising is grounded in cognitive and psychological theories that emphasize automatic, nonconscious processing as a critical determinant of decision-making. According to dual-process models of cognition, such as those proposed by Kahneman (2011), human thinking is governed by both a fast, intuitive, automatic system (System 1) and a slower, deliberative, conscious system (System 2). Subliminal advertising operates primarily through System 1 processing, where brief, subtle, or imperceptible stimuli activate implicit associations, affective responses, and memory networks, thereby influencing consumer attitudes and purchase intentions without conscious mediation. Empirical studies demonstrate that even when individuals report no awareness of exposure, subliminal cues can enhance brand recall, facilitate affective conditioning, and bias product evaluations (Greenwald, Draine, & Abrams, 1996; Bargh, Chen, & Burrows, 1996). These findings underscore the theoretical premise that subliminal messages can exert a measurable influence on consumer behavior by engaging nonconscious cognitive and emotional pathways.

The mechanisms underlying subliminal advertising effectiveness are closely tied to the principles of priming and associative learning. Priming refers to the process by which exposure to a stimulus activates related cognitive constructs in memory, thereby influencing subsequent judgments and behavior (Bargh et al., 1996). In consumer contexts, subliminally presented brand names, logos, or product images can prime associated attributes, enhancing familiarity, preference, and purchase likelihood. For example, Zajonc (1968) demonstrated that mere exposure to stimuli, even in the absence of conscious recognition, can increase affective preference—a principle that has been widely applied to subliminal advertising research. Additionally, affective priming suggests that subliminal stimuli with emotional valence, whether positive or negative, can shape consumer attitudes toward brands by eliciting automatic emotional responses (De Houwer, Thomas, & Baeyens, 2001). The interplay of cognitive and affective priming creates a synergistic effect, whereby subliminal cues reinforce both implicit evaluations and conscious judgments, enhancing overall advertising effectiveness.

Experimental research in controlled laboratory settings provides substantial evidence of subliminal advertising effectiveness, though results are context-dependent. Kunst-Wilson and Zajonc (1980) found that participants exposed to subliminally presented images of faces or product stimuli exhibited significant changes in preference ratings compared to unexposed control groups. Similarly, studies by Greenwald et al. (1996) demonstrated that subliminal verbal cues influenced subsequent evaluations of neutral or unfamiliar stimuli, highlighting

the capacity of nonconscious messages to bias judgment and affect behavior. The magnitude of these effects is influenced by several factors, including the duration and intensity of stimulus presentation, the emotional salience of the stimulus, and the pre-existing attitudes or motivations of the target audience (Trappey, 1996). Thus, while subliminal advertising can be effective, its impact is contingent on careful design and alignment with psychological principles. Digital media and technological advancements have further enhanced the effectiveness of subliminal advertising by allowing precise control over stimulus delivery and contextual integration. High-resolution screens, rapid image sequences, interactive digital content, and personalized algorithms provide multiple channels through which subliminal cues can be embedded seamlessly in consumer experiences (Goldstein, Cialdini, & Griskevicius, 2008). Eye-tracking studies and neuromarketing research indicate that brief or subtle cues presented in digital formats can capture attention, activate emotional responses, and reinforce brand associations without conscious detection (Plassmann, Ramsøy, & Milosavljevic, 2012). Moreover, personalized content delivery, informed by behavioral analytics and engagement metrics, allows marketers to optimize subliminal messaging for specific audiences, enhancing relevance, resonance, and ultimately, effectiveness. These technological capabilities highlight that subliminal advertising effectiveness is increasingly intertwined with digital media strategy, enabling marketers to leverage both nonconscious processing and data-driven targeting.

The emotional dimension of subliminal advertising is central to its effectiveness. Emotions influence consumer evaluation and decision-making by serving as automatic heuristic cues that guide preferences and judgments (Pham, 2004). Subliminal cues that evoke positive emotions, such as happiness, comfort, or aspiration, can increase consumer liking for associated products, whereas negative cues may deter preference (De Houwer et al., 2001). Neuroimaging studies confirm that subliminally presented emotional stimuli can activate affective brain regions, such as the amygdala, even when participants do not consciously perceive the stimuli (Whalen et al., 1998). This neural evidence provides biological validation for the psychological mechanisms underlying subliminal advertising effectiveness, demonstrating that nonconscious affective activation can directly influence attitudes and intentions. Furthermore, emotional responses induced by subliminal messages can persist over time, reinforcing brand associations and guiding repeated purchasing behavior, thus highlighting the strategic value of affective subliminal cues in long-term marketing efforts. Consumer involvement and motivation significantly moderate the effectiveness of subliminal advertising. High-involvement consumers, who possess pre-existing interest or knowledge

about a product category, are more responsive to subliminal cues that align with their goals or preferences (Trappey, 1996). In contrast, low-involvement consumers may exhibit weaker responses unless the subliminal stimuli are highly salient, emotionally charged, or contextually relevant. This finding aligns with the elaboration likelihood model (ELM) of persuasion, which suggests that nonconscious cues are particularly influential when consumers are less motivated to engage in detailed, deliberative processing (Petty & Cacioppo, 1986). Subliminal advertising, therefore, is most effective when integrated into a broader communication strategy that considers consumer involvement, motivation, and context, ensuring that subtle cues complement rather than replace conscious messaging.

Ethical and regulatory considerations are essential in evaluating subliminal advertising effectiveness. While research demonstrates measurable effects on consumer cognition and behavior, ethical concerns arise regarding manipulation and consumer autonomy (AMA, 2013). Regulatory frameworks in many jurisdictions restrict the use of subliminal techniques, emphasizing transparency and fairness. Ethical deployment, however, does not preclude effectiveness; responsible strategies focus on enhancing engagement, reinforcing positive associations, and supporting informed choice rather than coercion. Ethical considerations may also influence consumer receptivity; research suggests that awareness of subliminal manipulation can generate skepticism or resistance, potentially undermining effectiveness (Pratkanis & Greenwald, 1988). Therefore, the design and implementation of subliminal advertising must balance persuasive potential with ethical responsibility, ensuring that influence is both impactful and acceptable. Cultural and demographic factors further shape the effectiveness of subliminal advertising. Cross-cultural studies indicate that the interpretation and responsiveness to subliminal cues vary according to social norms, cognitive styles, and emotional processing patterns (Nisbett, 2003). Similarly, individual differences, including personality traits, prior experiences, and susceptibility to nonconscious influence, moderate the impact of subliminal stimuli on consumer behavior (Cacioppo & Petty, 1982). Marketers must account for these variations to maximize effectiveness, tailoring subliminal strategies to align with audience characteristics and cultural contexts. In heterogeneous markets, such as India, culturally appropriate subliminal cues that resonate with local values, symbolism, and media consumption habits are more likely to influence attitudes, preferences, and purchase intentions effectively.

The cumulative and synergistic effects of subliminal advertising also contribute to its overall effectiveness. Repeated exposure to subliminal stimuli, even at low intensity, can reinforce brand recognition, enhance familiarity, and increase preference over time (Zajonc, 1968).

When combined with conscious advertising efforts, such as explicit messaging or promotional campaigns, subliminal cues function as subtle reinforcements that strengthen overall marketing impact. Multisensory approaches, integrating visual, auditory, and tactile cues, further enhance effectiveness by engaging multiple processing channels, creating richer and more durable memory representations (Plassmann et al., 2012). This multi-dimensional influence demonstrates that subliminal advertising is most effective when integrated into comprehensive marketing strategies that consider timing, frequency, modality, and content congruence. Empirical evidence from both laboratory and field studies provides robust support for the effectiveness of subliminal advertising. Laboratory experiments demonstrate that subliminal cues can influence product choice, brand evaluation, and affective responses under controlled conditions (Greenwald et al., 1996; Kunst-Wilson & Zajonc, 1980). Field studies in retail and digital environments indicate that subtle visual and auditory stimuli can affect consumer engagement, click-through rates, and purchase behavior, especially when integrated with personalized and contextually relevant content (Goldstein et al., 2008). These findings suggest that subliminal advertising can exert meaningful influence on real-world consumer behavior, validating theoretical models and supporting practical implementation.

1.8 Subliminal Advertising and Controversies:

Subliminal advertising has long been a subject of both fascination and debate among scholars, practitioners, regulators, and the public, as its very premise challenges conventional assumptions about conscious consumer decision-making. From its early controversial inception in the 1950s with James Vicary's widely publicized claims regarding the subliminal presentation of "Eat Popcorn" and "Drink Coca-Cola" messages in movie theaters, the field has been marked by disputes over scientific validity, ethicality, and regulatory implications (Moore, 1982). Although Vicary's study was later criticized for methodological flaws and potential fabrication, it ignited widespread discussion about the capacity of imperceptible stimuli to influence consumer behavior, and created the enduring perception that subliminal advertising constitutes a powerful yet hidden tool of persuasion. Scholars have since examined the phenomenon from cognitive, psychological, marketing, and neuroscientific perspectives, revealing both empirical support and limitations while fueling controversies regarding its effectiveness, ethical acceptability, and legal governance (Greenwald, Draine, & Abrams, 1996; Bargh, Chen, & Burrows, 1996). The debates surrounding subliminal advertising are multifaceted, encompassing theoretical, empirical, practical, and moral

dimensions that remain highly relevant in contemporary advertising discourse.

A central controversy in subliminal advertising concerns its effectiveness and replicability. Early studies suggested that stimuli below conscious perception could meaningfully influence consumer preferences, judgments, and even purchasing decisions, primarily through priming and affective mechanisms (Kunst-Wilson & Zajonc, 1980; Zajonc, 1968). Experimental work demonstrated that subliminally presented images or words could elicit emotional responses, increase familiarity, and bias subsequent evaluations of neutral or unfamiliar stimuli. However, replication attempts have produced mixed results, leading some researchers to question the robustness of the phenomenon (Trappey, 1996). Critics argue that many reported effects are small, context-dependent, and sensitive to experimental design, stimulus duration, and participant characteristics, raising doubts about their practical significance in real-world marketing contexts (Moore, 1982). While modern neuroscience provides evidence that subliminal stimuli can activate affective brain regions, such as the amygdala, even in the absence of conscious recognition (Whalen et al., 1998), translating these neural activations into reliable behavioral outcomes remains a subject of ongoing investigation. Consequently, the scientific debate regarding effectiveness persists, with supporters emphasizing subtle yet meaningful influence and skeptics highlighting methodological limitations and inconsistent results.

Another significant controversy concerns the ethical implications of subliminal advertising. Ethical discourse revolves around the notion that subliminal messages bypass conscious awareness and may manipulate consumer choices without informed consent, thereby raising questions about autonomy, fairness, and moral responsibility (AMA, 2013). Critics argue that exploiting nonconscious processes constitutes a form of covert persuasion that undermines consumers' ability to make rational decisions, particularly in vulnerable populations such as children, the elderly, or those with low media literacy. For example, embedding imperceptible cues in digital media, video content, or audio tracks could shape preferences or induce behavior without explicit knowledge, creating the perception of manipulative intent. Supporters counter that subliminal advertising, when used responsibly, can reinforce positive brand experiences, enhance engagement, and support marketing objectives without coercion (Pratkanis & Greenwald, 1988). The ethical controversy is therefore intertwined with regulatory and professional considerations, emphasizing the need for standards that balance marketing effectiveness with consumer protection and social responsibility.

The legal and regulatory landscape surrounding subliminal advertising constitutes another contentious domain. Jurisdictions vary widely in their treatment of subliminal techniques,

with some countries banning the practice outright, while others provide guidelines to ensure transparency and fairness. For instance, the Federal Communications Commission (FCC) in the United States prohibits the use of subliminal messages in broadcast advertising, citing the potential for deception and manipulation (Moore, 1982). Similarly, advertising self-regulatory bodies and professional associations, including the American Marketing Association (AMA), emphasize ethical obligations and consumer protection standards. These regulatory controversies stem from the tension between marketers' desire to leverage nonconscious influence and societal expectations regarding informed choice, fair competition, and trust in advertising. The legal discourse is complicated further by emerging digital and online advertising environments, where imperceptible cues can be algorithmically personalized, raising questions about enforcement, oversight, and accountability in rapidly evolving media landscapes.

A further area of debate is the psychological plausibility of subliminal influence on complex behaviors such as purchasing decisions. While experimental evidence demonstrates that subliminal cues can prime attitudes, elicit affective responses, and bias judgments (Bargh et al., 1996; Greenwald et al., 1996), critics contend that real-world buying behavior is influenced by numerous conscious and unconscious factors, including social norms, prior experience, budget constraints, and cognitive deliberation. The capacity of subliminal messages to override these multifaceted influences is therefore questioned. For example, while laboratory studies suggest that brief exposure to a subliminal brand cue can increase preference ratings under controlled conditions, translating these effects to actual purchase behavior in naturalistic retail settings remains uncertain (Trappey, 1996). This gap between laboratory evidence and practical application fuels controversy regarding the true effectiveness of subliminal advertising, with some scholars suggesting that effects may be more symbolic than behaviorally consequential.

The role of emotion and affect in subliminal advertising further complicates the controversy. Subliminal cues are often designed to elicit affective responses that indirectly influence attitudes and behavior, leveraging principles of emotional priming and implicit association (Pham, 2004; De Houwer, Thomas, & Baeyens, 2001). While these mechanisms are theoretically plausible and supported by neuroscience, the ethical and practical implications are debated. Critics argue that manipulating emotions at a subconscious level raises questions about consent, agency, and moral responsibility, particularly when emotional appeals intersect with sensitive topics such as health, sexuality, or social identity (AMA, 2013). Conversely, proponents suggest that subtle emotional reinforcement can enhance brand

experience, engagement, and positive behavioral outcomes without coercion. This tension between effectiveness and ethics underscores the broader controversy surrounding subliminal advertising: the very mechanisms that make it potentially powerful also render it ethically and socially contentious.

Controversies also extend to cultural and societal dimensions, particularly in contexts where subliminal messaging intersects with local values, beliefs, and media norms. Research indicates that the interpretation and impact of subliminal cues are shaped by cultural context, cognitive styles, and social norms (Nisbett, 2003). What may be perceived as a benign subliminal cue in one society could be interpreted as manipulative or offensive in another, influencing both consumer response and public perception of ethical standards. In highly diverse markets, such as India or Gujarat specifically, the design and deployment of subliminal messages must account for cultural symbolism, language, and societal norms to avoid unintended consequences. This cross-cultural variability contributes to the ongoing debate about the universality of subliminal advertising effectiveness and the ethical boundaries of its application.

The advent of digital and algorithmic marketing has intensified controversies related to subliminal advertising. Online environments enable highly personalized, context-specific, and imperceptible message delivery through micro-flashes, rapid visual transitions, or subtle audio cues embedded within digital content (Goldstein, Cialdini, & Griskevicius, 2008). While these capabilities enhance marketing potential, they also amplify ethical and regulatory concerns. The ability to track behavior, infer preferences, and deliver subliminal cues based on personal data raises questions about privacy, consent, and manipulation. Public awareness of such capabilities can exacerbate mistrust, even when messages are intended to enhance engagement rather than coerce behavior. These debates highlight the need for research-informed policy, ethical guidelines, and consumer education to navigate the evolving digital landscape responsibly.

Another point of contention is the ambiguity surrounding measurement and evaluation of subliminal advertising effectiveness. Scholars debate the methodological challenges inherent in assessing nonconscious influence, including the difficulty of establishing awareness thresholds, isolating causal effects, and distinguishing between short-term priming and long-term behavioral impact (Greenwald et al., 1996; Moore, 1982). Laboratory experiments, while controlled, may lack ecological validity, whereas field studies often encounter confounding variables that complicate interpretation. The variability of findings has fueled skepticism and controversy, prompting calls for rigorous, replicable, and transparent research

methodologies to substantiate claims of effectiveness while addressing ethical concerns. Finally, public perception and media discourse contribute to the ongoing controversy surrounding subliminal advertising. Popular accounts, sensational media reports, and anecdotal claims often exaggerate the power of subliminal influence, creating myths and misconceptions about its capabilities. While scientific research presents a nuanced picture—indicating measurable yet context-dependent effects—the persistence of public skepticism and regulatory caution reflects the tension between perceived risk and empirical reality. This discrepancy between scientific evidence, practical application, and public perception underscores the complexity of the controversy, highlighting the need for informed debate and evidence-based policy.

1.9 Need for the present study:

Subliminal advertising, which involves the presentation of stimuli below the threshold of conscious perception, has emerged as a subtle yet potentially influential tool in shaping consumer behavior (Bargh, Chen, & Burrows, 1996). Despite decades of research on consumer psychology and advertising effectiveness, there remains limited empirical evidence regarding its real-world impact, particularly within regional and culturally diverse contexts such as Gujarat. Most existing studies on subliminal advertising have been conducted in controlled laboratory environments or in Western countries, where consumer behavior, media consumption, and cultural norms differ significantly from Indian contexts (Greenwald, Draine, & Abrams, 1996; Kunst-Wilson & Zajonc, 1980). Therefore, the generalizability of prior findings to the Gujarati market remains uncertain. Furthermore, with rapid growth in digital marketing, personalized media, and multimedia advertisements, consumers are increasingly exposed to complex stimuli, creating opportunities for subliminal cues to influence attitudes, preferences, and purchase decisions without conscious awareness (Goldstein, Cialdini, & Griskevicius, 2008). Understanding the interplay between subliminal stimuli, emotional responses, and buying behavior is critical for marketers seeking to design effective strategies that resonate with local consumer segments while remaining ethically responsible.

Given these gaps, the present study seeks to examine the effect of subliminal advertising on consumer buying behavior in Gujarat, exploring how nonconscious cues influence purchase intentions, brand preferences, and decision-making. This investigation is essential not only to contribute to academic knowledge but also to provide actionable insights for marketers,

advertisers, and policymakers in a culturally relevant context.

CHAPTER 2

LITERATURE

REVIEW

Chapter 2 Literature Review

Overview

This chapter reviews the existing literature on subliminal advertising and consumer buying behavior. It examines the concept, evolution, and applications of subliminal advertising, along with its influence on consumer cognition, emotions, brand perception, and purchase decisions. The chapter also analyzes previous studies on advertisement effectiveness, brand preference, purchase intention, and impulsive buying behavior. Finally, it identifies key research gaps and provides a summary of the literature review, forming the foundation for the present study.

2.1 Subliminal Perception:

Subliminal perception has long intrigued researchers due to its potential influence on human behaviour and emotions without conscious awareness. According to Dixon (1971), subliminal perception refers to the phenomenon where stimuli, presented below the threshold of conscious recognition, can still influence behavioural responses and emotional states. Various types of subliminal stimulation have been identified, including briefly presented visual stimuli, low-volume auditory messages delivered through accelerated speech, and the embedding of covert imagery or suggestive language in advertising materials (Dixon, 1971).

To conceptualize the mechanism of subliminal perception, Dixon (1971) illustrated two theoretical perspectives of conscious and subconscious perception through flowcharts. In the model representing the subliminal perception hypothesis, stimuli are believed to initiate internal processes that impact overt behavioural responses either directly or through perceptual mechanisms, without the individual's conscious awareness of the stimuli. This is contrasted with the traditional conscious perception hypothesis, where behavioural responses are considered to stem solely from conscious recognition of stimuli.

Dixon (1971) further categorized subliminal perception into several distinct conditions that explain different levels of stimulus awareness. These include: (1) responding to stimuli that fall below a previously established threshold of awareness; (2) responding to stimuli with complete unawareness of their existence; (3) acknowledging stimulation without recognizing the specific nature of the stimulus; (4) recognizing the stimulus but denying awareness of having responded to it; (5) being aware of both the stimulus and the response while being oblivious to their relationship; and (6) recognizing the response but remaining unaware of the specific aspect of the stimulus that triggered it. To avoid conceptual confusion, Dixon (1971)

proposed using the term “unconscious perception” to describe situations where behavioural responses occur without any reported awareness of the underlying stimulus.

Additionally, the concept of “threshold” or “limen” plays a crucial role in understanding subliminal perception. Dixon (1971) outlined three key threshold criteria: (1) the elicitation of responses by stimuli presented below the absolute awareness threshold—defined as the lowest stimulus intensity where the subject has ever reported awareness; (2) retrospective reports by subjects confirming they neither perceived nor recognized the stimulus; and (3) the emergence of conditioned responses that differ qualitatively from those triggered by stimuli presented above the threshold, referred to as supraliminal stimuli.

The central issue concerning subliminal perception is not merely the capacity to respond to stimuli below the awareness threshold but rather the extent to which such stimuli can influence behaviour in ways qualitatively distinct from consciously perceived stimuli. This concern is particularly relevant in the context of subliminal advertising. Two dominant theoretical frameworks have been proposed to explain these effects. The first is the **incremental effects theory**, which posits that repeated exposure to subliminal stimuli leads to a gradual build-up of stimulus representation within the individual’s neural system (Mowen, 1993). Over time, this cumulative effect surpasses a behavioural threshold, resulting in changes in consumer behaviour, even though individuals remain unaware of the actual cause of their behavioural shifts. This theory emphasizes the necessity of multiple repetitions for subliminal effects to manifest.

The second explanatory framework is the **psychodynamic theory of arousal**, which is rooted in psychoanalytic traditions. This theory suggests that subliminal stimuli can activate latent, unconscious desires or wishes, subsequently influencing conscious attitudes and behaviours (Mowen, 1993). Specifically, subliminal cues are believed to trigger unconscious motivational forces, thereby altering perceptions and behavioural responses towards advertisements without overt awareness.

Overall, the literature underscores that subliminal perception operates through complex mechanisms involving unconscious information processing, with significant implications for consumer behaviour and marketing strategies. However, the empirical validation of subliminal effects remains a contentious issue within academic discourse, with calls for more rigorous experimental methodologies to ascertain their reliability and real-world applicability.

2.1.1 Psychological Foundation of Subliminal Perception

The concept of subliminal advertising originates from cognitive and behavioural psychology, particularly from theories explaining how individuals perceive, process, store, and respond to information that may not reach conscious awareness. Consumer behaviour is not solely influenced by consciously processed marketing stimuli; rather, numerous psychological processes operate below the threshold of awareness, shaping attitudes, preferences, and behavioural intentions. Therefore, understanding the psychological foundations of subliminal perception provides the theoretical basis for examining the effectiveness of subliminal advertising on consumer buying behaviour.

Human Perception

Perception refers to the psychological process through which individuals select, organize, and interpret sensory information to create meaningful experiences of the external environment. Human perception is influenced not only by external stimuli but also by prior knowledge, expectations, motivation, and past experiences. In the context of advertising, consumers are continuously exposed to numerous marketing messages; however, only a limited amount of this information receives conscious attention. Stimuli that remain below conscious awareness may nevertheless be processed unconsciously and influence subsequent judgments and decisions (Schiffman & Wisenblit, 2019; Solso, Maclin, & Maclin, 2008). Research in cognitive psychology suggests that perceptual processes involve both conscious and unconscious mechanisms that together contribute to behavioural responses.

Conscious and Subconscious Mind

Psychological theories distinguish between conscious and subconscious (or non-conscious) mental processing. Conscious processing involves deliberate awareness, reasoning, and intentional decision-making, whereas subconscious processing occurs automatically without conscious recognition. Contemporary cognitive psychology suggests that many judgments and behavioural responses originate from automatic mental processes operating outside conscious awareness. Such subconscious processing enables individuals to respond rapidly to environmental cues without engaging in deliberate cognitive effort. This distinction is fundamental to understanding subliminal advertising, as subliminal stimuli are designed to influence subconscious processing while remaining below the threshold of conscious detection (Kahneman, 2011; Merikle, 1988).

Subliminal Perception

Subliminal perception refers to the processing of stimuli presented below an individual's threshold of conscious awareness. Although individuals may not consciously recognize these stimuli, research indicates that they can still influence cognitive, emotional, and behavioural responses under specific experimental conditions. Subliminal stimuli are typically presented very briefly or masked by other stimuli, preventing conscious identification while permitting limited unconscious processing. Modern research demonstrates that subliminal perception is capable of activating semantic, emotional, and behavioural responses, although its effects are generally subtle and context dependent (Coren, 2010; Kouider & Dehaene, 2007).

Cognitive Processing

Cognitive processing involves the mental activities through which individuals acquire, interpret, store, and retrieve information. Information-processing theory proposes that consumers actively process marketing information through several stages, including exposure, attention, interpretation, memory encoding, and retrieval. However, not all information requires conscious attention for cognitive processing to occur. Research has shown that subliminal stimuli can activate existing cognitive structures and influence subsequent judgments without conscious awareness. Consequently, cognitive processing provides an important theoretical explanation for understanding how subliminal advertising may influence consumer buying behaviour (Solso et al., 2008; Schiffman & Wisenblit, 2019).

Attention and Selective Perception

Attention represents the cognitive process of selectively concentrating on specific stimuli while ignoring competing information. Because consumers encounter a vast number of advertisements daily, selective attention enables them to process only information considered personally relevant or meaningful. Nevertheless, stimuli that escape conscious attention may still undergo limited unconscious processing and subsequently influence attitudes or behavioural responses. This phenomenon provides one of the psychological explanations supporting the possibility that subliminal advertising can affect consumer decision-making under certain circumstances (Schiffman & Wisenblit, 2019).

Memory

Memory plays a critical role in consumer decision-making because it enables individuals to encode, retain, and retrieve information about products, brands, and previous purchasing experiences. Psychological research distinguishes between explicit memory, which involves

conscious recall, and implicit memory, which influences behaviour without conscious recollection. Subliminal stimuli primarily affect implicit memory by activating previously stored associations that may later influence consumer preferences and purchase decisions. Such unconscious memory activation contributes to brand familiarity and evaluative judgments during buying situations (Solso et al., 2008; Minton, Cornwell, & Kahle, 2017).

Priming

Priming refers to the psychological phenomenon in which prior exposure to a stimulus influences responses to subsequent stimuli without conscious awareness. Priming effects occur because exposure temporarily increases the accessibility of related concepts within memory, thereby affecting perception, judgment, and behaviour. In marketing, priming provides one of the strongest theoretical foundations for subliminal advertising because subtle visual, verbal, or auditory cues can activate brand-related associations and influence consumer preferences. Although the magnitude of these effects depends on several contextual factors, extensive research has demonstrated that priming can alter attitudes, product evaluations, and purchasing behaviour under appropriate conditions (Minton et al., 2017; Elgendi et al., 2018).

Consumer Psychology

Consumer psychology examines how psychological processes influence purchasing decisions and consumption behaviour. It integrates concepts from perception, motivation, learning, memory, attitudes, and decision-making to explain why consumers choose particular products or brands. Within this framework, subliminal advertising represents an application of psychological principles aimed at influencing consumers through unconscious cognitive processing. Although the practical effectiveness of subliminal advertising continues to be debated, psychological research generally agrees that unconscious processes can shape attitudes, preferences, and behavioural responses under specific conditions. Consequently, consumer psychology provides the theoretical foundation for investigating the relationship between subliminal advertising and consumer buying behaviour (Schiffman & Wisenblit, 2019; Theus, 1994).

Overall, the psychological foundations discussed above demonstrate that consumer behaviour is influenced by both conscious and unconscious cognitive processes. Human perception, attention, memory, priming, and subconscious information processing collectively explain how subliminal advertising may affect consumer attitudes and buying decisions. These

psychological concepts therefore serve as the theoretical basis for the present study, which examines the effect of subliminal advertising on consumer buying behaviour in Gujarat State.

2.2 Subliminal Process:

The concept of subliminal processes has garnered significant interest in psychological and consumer behavior studies, especially regarding the impact of stimuli that fall beneath conscious awareness on human behavior and decision-making. Subliminal perception involves the detection and processing of sensory inputs that individuals are not consciously aware of, yet these stimuli can still lead to observable shifts in attitudes and behaviors (Dixon, 1971). This area of study has become especially prominent in disciplines such as psychology, advertising, and neuroscience, given its implications for influencing behavior without individuals' conscious recognition.

Pioneering research by Dixon (1971) characterized subliminal perception as the phenomenon where stimuli, presented below the threshold of conscious awareness, are nonetheless capable of eliciting internal cognitive and emotional reactions. Dixon made a distinction between stimuli processed consciously and those processed unconsciously, explaining that non-conscious stimuli could induce behavioral responses either through direct activation or via subconscious cognitive pathways. His work also categorized various forms of subliminal stimuli, including fleeting visual cues, subtle auditory signals (such as sped-up speech), and concealed sexual imagery or suggestive phrases embedded within advertisements.

Dixon (1971) further classified subliminal perception into six distinct categories, ranging from instances of complete unawareness of both stimulus and response, to scenarios where individuals could detect the stimulus but remained unaware of the behavior it triggered. He introduced the term “unconscious perception” to describe cases where people responded behaviorally without any conscious acknowledgment of the stimulus. This framework emphasized the importance of sensory threshold levels, highlighting that responses could still be provoked even when stimuli remained below the absolute threshold required for conscious detection.

Expanding on Dixon's foundational work, Mowen (1993) investigated how subliminal processes operate within consumer behavior through two principal theoretical approaches. The first, known as the incremental effects theory, suggests that repeated subliminal exposures create cumulative neural representations. These mental imprints eventually cross a behavioral threshold, influencing decisions without the individual being consciously aware of

the stimulus's presence (Mowen, 1993). According to this perspective, frequency and repetition are key factors in determining the strength of subliminal effects.

The second approach, the psychodynamic theory of arousal, draws from psychoanalytic thought, proposing that subliminal cues activate deep-seated unconscious motivations and desires. These hidden activations can subsequently shape an individual's perceptions and behaviors toward external stimuli, such as advertisements, despite the absence of conscious awareness regarding these internal processes (Mowen, 1993).

Recent empirical studies continue to explore the scope and ethical concerns related to subliminal messaging, particularly in the context of marketing and advertising. Although experimental research confirms that subliminal stimuli can influence behavior under controlled laboratory conditions, the magnitude and consistency of these effects in practical, everyday environments are still debated (Trappey, 1996; Karremans, Stroebe, & Claus, 2006). A meta-analysis conducted by Trappey (1996) revealed that while subliminal messages can impact decision-making in experimental setups, the overall effect size is relatively modest. Further research by Karremans et al. (2006) demonstrated that subliminal priming could momentarily boost preferences for certain brands, especially when the consumer already possesses relevant motivational states. However, these effects tend to be short-lived and highly context-dependent.

2.3 Subliminal Messages:

One of the most fascinating aspects of the human subconscious is its capacity to absorb subliminal cues. Subliminal messages consist of audio or visual signals that are presented below the threshold of conscious awareness. Even though individuals do not consciously register these stimuli, they can still shape attitudes, beliefs, and behaviors (Karremans et al., 2006). The phenomenon of subliminal messaging has been the focus of extensive discussion and investigation across several disciplines, including psychology, cognitive science, neurology, and marketing. The idea that individuals' thoughts and choices can be shaped without their explicit awareness raises important ethical and practical questions, especially concerning its use in advertising, political campaigns, and therapeutic interventions.

A well-known study conducted by Karremans and colleagues in 2006 illustrated this effect using a method called visual masking. In this experiment, participants were exposed to the brand name "Lipton Ice," which appeared on a screen for just 23 milliseconds, followed by a masking stimulus—such as random shapes or letters—designed to prevent conscious

recognition. This technique ensured that participants were unaware of the exposure while their subconscious minds still processed the message. The subliminal brand name was displayed several times while participants were engaged in a distracting task, maintaining their lack of conscious detection. The results revealed that participants who were thirsty and had been exposed to the subliminal cue were significantly more inclined to choose Lipton Ice compared to other options. Conversely, those who were not thirsty showed no meaningful response to the subliminal messaging (Karremans et al., 2006). These findings suggest that subliminal cues can influence consumer preferences, particularly when aligned with an existing need or motivation.

Advancements in neuroscience have further allowed researchers to explore subliminal processing with greater accuracy. Techniques like functional magnetic resonance imaging (fMRI) and electroencephalography (EEG) have demonstrated that even when individuals are unaware of subliminal inputs, these stimuli can activate brain areas responsible for perception and decision-making. In cognitive psychology, extensive research on subliminal priming has shown that brief, hidden stimuli can alter responses to subsequent information, influencing emotions and cognitive processes without overt control of behavior.

Beyond commercial applications, the potential of subliminal messaging is being explored in therapeutic practices, including efforts to aid individuals in quitting smoking, managing weight, and lowering stress levels. However, despite these potential benefits, the ethical concerns surrounding subliminal messaging remain significant. There is ongoing debate regarding the risk of manipulation and violation of personal autonomy, especially when subliminal techniques are employed in commercial advertising or political communications where informed consent is not feasible (Karremans et al., 2006).

2.3.1 History:

The notion that individuals can be influenced by subliminal cues has origins dating back to ancient times. Historical accounts suggest that as early as the fifth century B.C., Greek philosophers experimented with using subtle and persuasive language techniques to sway public opinion without overt awareness. While the concept gained mainstream attention in the mid-20th century, systematic scientific investigations into the real effects of subliminal stimuli only began to gain traction more recently. In 1943, subliminal content was sporadically introduced into radio broadcasts, films, and television shows. An example of this is found in a 1943 Daffy Duck animated short, where the phrase “BUY BONDS” briefly appeared on the screen. Although there was little empirical evidence to support the efficacy

of such messages, media producers experimented with these techniques in hopes of influencing audiences (Tinline, 2015). By 1957, subliminal advertising gained significant public attention when market researcher James Vicary claimed that flashing phrases like “Eat Popcorn” and “Drink Coca-Cola” for milliseconds during a movie screening led to increased concession sales. However, Vicary later admitted in 1962 that his claims were fabricated. Despite this confession, the concept of subliminal influence became ingrained in public consciousness, sparking both concern and curiosity from advertisers and regulatory agencies (Tinline, 2015). Between the late 1960s and the 1980s, empirical studies generally discredited the notion that subliminal messages could effectively manipulate behavior. For instance, research indicated that exposing audiences to subliminal prompts such as “Hershey’s Chocolate” during lectures did not significantly alter subsequent purchase decisions over a monitored period (Irianto, 2015).

During the 1990s, while much of the evidence remained skeptical, certain experiments began revealing minor subliminal effects. One 1992 study demonstrated that participants shown brief flashes of positive or negative images after viewing neutral photographs tended to rate individuals more favorably or unfavorably based on the subliminal content, implying subconscious biases could be triggered (Bashir et al., 2019). In the early 2000s, growing research suggested that subliminal messages could influence perceptions, albeit in subtler ways than initially assumed. A landmark 2006 study, for example, revealed that thirsty participants exposed to brief flashes of the Lipton Ice Tea brand were more inclined to choose it, indicating that subliminal priming could be effective under specific motivational conditions (Karremans et al., 2006). Further, in 2007, subliminal priming was shown to potentially enhance academic outcomes. In one experiment, students subliminally primed with words associated with intelligence performed better on midterms, indicating the capacity of hidden cues to improve academic motivation (Bashir et al., 2019).

From 2010 to 2015, advancements in neuroimaging technology, such as fMRI and EEG, provided concrete evidence that subliminal messages activate specific brain regions. These included the amygdala (linked to emotions), insula (associated with conscious processing), hippocampus (responsible for memory functions), and visual cortex (visual processing), confirming the neurological impact of subliminal stimuli (Elci & Sert, 2015). From 2015 onwards, research into subliminal messaging expanded, particularly with the use of neuroscience tools to understand unconscious cognitive mechanisms. Studies have increasingly focused on the ethical boundaries and limitations of subliminal influence. For instance, neurocognitive studies between 2015 and 2018 demonstrated how subliminal cues

could momentarily improve mood or prime behavior but highlighted that such effects are transient and context-dependent (Bashir et al., 2019). By 2019, research began exploring subliminal messaging in digital environments, such as mobile apps and social media platforms, revealing the potential for covert influence through rapid ad placements (Irianto, 2015).

Between 2020 and 2023, artificial intelligence (AI) and machine learning technologies have been integrated into subliminal research, enabling real-time analysis of consumer reactions to microsecond-level stimuli. This period also saw growing regulatory discussions about the ethical use of subliminal techniques in digital marketing and political campaigns, particularly regarding user autonomy and informed consent (LaMarco, 2018). By 2024, contemporary research emphasizes a nuanced view—while subliminal messages can subtly prime attitudes and immediate preferences, they do not possess the overpowering influence once sensationalized in popular culture. Current studies, particularly in neuromarketing, suggest subliminal cues may reinforce existing desires rather than create new ones, especially in personalized advertising settings (LaMarco, 2018; Karremans et al., 2006).

2.3.2 Current Scenario:

In recent years, the subject of subliminal messaging has continued to attract scholarly interest, especially within the fields of psychology, neuroscience, and marketing. Modern research suggests that subliminal cues can influence individuals' perceptions and behaviors, though these effects tend to be minor, short-lived, and closely linked to a person's existing needs or motivational states (Karremans, Stroebe, & Claus, 2006; Bashir, Qamar, Abrar, & Husnain, 2019). The use of neuroimaging techniques such as functional magnetic resonance imaging (fMRI) and electroencephalography (EEG) has significantly advanced the understanding of how subliminal stimuli function. Studies conducted after 2015 have demonstrated that even when individuals are unaware of subliminal exposure, such stimuli can activate brain regions like the amygdala, hippocampus, and visual cortex, which are responsible for emotional responses, memory processing, and visual perception (Elci & Sert, 2015; Irianto, 2015). This provides credible scientific support for the claim that subliminal cues can influence subconscious processing.

Technological developments have further contributed to the evolving understanding of subliminal influence. Research shows that artificial intelligence and machine learning are increasingly utilized to track and analyze real-time consumer reactions, particularly in digital environments such as mobile applications and online advertisements (LaMarco, 2018). In

advertising, recent studies have shifted the narrative from overstated claims about the power of subliminal messages to a more realistic perspective. Bashir et al. (2019) emphasized that subliminal stimuli can strengthen already existing preferences rather than create new ones. Earlier research by Karremans et al. (2006) similarly demonstrated that subliminal brand exposure impacted consumer choice only when participants had an underlying motive, such as thirst. This has led to a consistent conclusion in recent literature that subliminal influence is situationally effective, especially in personalized advertising formats.

With the proliferation of subliminal exposure in digital media, ethical concerns have gained prominence. Recent studies have pointed out the risks of manipulation through microtargeted advertisements on social media, raising questions about user consent and psychological autonomy (LaMarco, 2018). Regulatory efforts, such as those reflected in the European Union's General Data Protection Regulation (GDPR), have attempted to address these concerns, though clear guidelines on the governance of subliminal influence remain limited (Bashir et al., 2019). Overall, the consensus in contemporary literature is that subliminal messages, while incapable of significantly altering consumer behavior on their own, can reinforce certain attitudes or preferences when timed appropriately and aligned with specific emotional or psychological states. Their growing application in marketing and therapeutic contexts, coupled with technological advancements, has broadened the scope of subliminal messaging, though researchers continue to call for ethical responsibility and further empirical exploration (Karremans et al., 2006; Elci & Sert, 2015; LaMarco, 2018).

2.3.3 Types:

According to Asplund, Todd, Snyder, Gilbert, and Marois (2011), subliminal messages can be classified into four distinct categories. The first category is termed “threshold stimuli,” which includes words or phrases displayed so briefly and with such low intensity that they fall beneath the conscious detection threshold. A classic example of this would be rapidly flashing phrases like “eat popcorn” on a cinema screen without the audience consciously perceiving it. The second classification involves “masked stimuli,” where the primary stimulus is obscured or overridden by a stronger subsequent stimulus—such as displaying words for mere milliseconds followed by a bright flash of light to prevent conscious recognition. The third category, known as “unattended stimuli,” refers to messages embedded within images, logos, or visuals in a manner that makes it difficult for individuals to isolate or consciously recognize the hidden element. An example would include subliminally embedding suggestive words or images within brand logos or advertisements. The final type

is called “figuratively transformed stimuli,” where words or images are so heavily distorted, altered, or masked that they become unrecognizable at a conscious level—this can include embedding affirmations or messages within popular music tracks (Asplund et al., 2011). Additionally, LaMarco (2018) proposed a simplified classification system, categorizing subliminal stimuli into three main types. These include: “sub-visual,” which refers to fleeting visual cues shown too quickly to be consciously noticed; “sub-audible,” which involves audio cues hidden within music or spoken word recordings; and “back-masked” messages, where audio phrases are recorded in reverse so that they play inconspicuously during forward playback. Across the literature, despite various approaches to categorization, there appears to be a consensus that subliminal messages generally fall into two overarching forms: visual and auditory types (Asplund et al., 2011; LaMarco, 2018).

According to Bashir et al. (2019), Irianto (2015), and Tinline (2015), subliminal messages can be broadly classified into several key categories. The first category is *audiovisual messages*, which involve embedding subliminal content within video or visual advertisements. Typically, standard videos display approximately twenty-four frames per second; this method involves adding a subliminal cue on a brief, additional twenty-fifth frame. This extra frame appears so quickly that it escapes conscious detection, yet it can still register within the subconscious mind of the viewer. The second category consists of *hidden visual messages*. This approach involves subtly altering or embedding specific visual elements within advertisements in a manner that remains unnoticed by the conscious mind but can trigger emotional responses at a subconscious level. The objective is to influence consumer preferences without their active awareness. The third type is *subliminal audio messages*, which entail the incorporation of faint audio cues into soundtracks, often at levels too low for conscious perception. For instance, background audio may include imperceptible prompts encouraging listeners to purchase a beverage or specific product. These audio cues often mimic natural sounds while embedding persuasive messages, subtly guiding consumer behavior.

It has been noted that while subliminal images and sounds can stimulate fundamental physiological responses such as hunger or thirst, directing these responses toward a specific brand or product remains challenging. Consequently, critical factors affecting consumer behavior include an individual’s perception, awareness, and understanding of subliminal messages, along with their susceptibility to subliminal persuasion. These factors are considered to form a unidimensional construct, with elements that are closely interrelated (Elci & Sert, 2015).

2.3.4 Subliminal Stimuli:

Subliminal stimuli have been an enduring subject of inquiry in psychology, neuroscience, and marketing, focusing on how messages presented below the threshold of conscious awareness can influence human behavior. The concept of subliminal influence dates back several decades, with early research highlighting its potential to affect attitudes and behavior without individuals being consciously aware (Dixon, 1971). Over the years, the definition of subliminal stimuli has evolved to encompass any sensory stimuli—visual or auditory—that are presented so briefly or subtly that they evade conscious detection but may still elicit subconscious responses (Bashir, Qamar, Abrar, & Husnain, 2019). Modern research has approached the study of subliminal stimuli with greater precision, employing advanced tools such as functional magnetic resonance imaging (fMRI) and electroencephalography (EEG) to examine how subliminal cues activate various brain regions associated with emotions, decision-making, and perception (Elci & Sert, 2015).

A significant body of contemporary research focuses on the application of subliminal stimuli in advertising. Karremans, Stroebe, and Claus (2006) conducted a widely cited study that demonstrated how subliminal priming using a brand name could influence consumer preferences. Their research revealed that participants subliminally exposed to the brand “Lipton Ice” were more likely to choose that beverage, but notably, this effect was only present among participants who were already thirsty. This finding underlines a critical theme in subliminal research: the stimuli are most effective when aligned with pre-existing needs or motivations. Similarly, Bashir et al. (2019) concluded that subliminal messages could subtly reinforce consumer choices, particularly when consumers had a latent desire for the product or service being promoted.

Research has also explored the ethical considerations of subliminal stimuli, especially in digital environments where exposure is frequent and often undetectable. LaMarco (2018) emphasized how subliminal messages have transitioned from traditional media to digital platforms, where rapid advertisements and subtle product placements are commonly used to bypass conscious scrutiny. This growing presence of subliminal content in online media has reignited debates about the ethical implications of influencing behavior without informed consent. Regulatory bodies, such as those in the European Union, have started addressing these issues through data protection regulations like the GDPR, though specific regulations targeting subliminal practices remain underdeveloped (Bashir et al., 2019).

Additionally, advances in neuroscience have expanded the understanding of subliminal stimuli beyond marketing. Studies using neuroimaging have shown that subliminal cues can

activate the amygdala, hippocampus, insula, and visual cortex, even when individuals do not consciously register these stimuli (Elci & Sert, 2015). This suggests that subliminal stimuli influence not only immediate preferences but also emotional reactions and memory formation. However, recent literature consistently reports that while subliminal stimuli can prime short-term behaviors and attitudes, they do not exert profound or lasting control over decision-making processes (Karremans et al., 2006). Overall, contemporary research portrays subliminal stimuli as subtle influencers that work within the boundaries of existing cognitive and emotional states rather than overriding free will.

2.3.5 Message Complexity:

Message complexity is a crucial factor influencing the effectiveness of subliminal messages, as it determines how easily a subliminal stimulus can be processed by the subconscious mind. Subliminal messages are designed to bypass conscious awareness and influence thoughts or behaviors subtly. Studies have shown that the cognitive load of a message plays a significant role in determining its effectiveness (Dixon, 1971). Simple and straightforward messages are more likely to succeed in subliminal communication because they require minimal cognitive processing, allowing the subconscious mind to register the information quickly (Elci & Sert, 2015). In contrast, complex messages, involving intricate visuals or abstract language, often require conscious deliberation to be fully understood, reducing their subliminal impact.

Empirical evidence supports this observation. Bashir, Qamar, Abrar, and Husnain (2019) explain that the subconscious mind operates efficiently with minimal cognitive effort, meaning it more readily processes basic visual symbols, brand logos, or short phrases. When the message involves high complexity—such as sentences with ambiguous meanings or detailed images with numerous focal points—the subconscious tends to filter them out, or the effects are too diluted to produce noticeable behavioral change. This principle is especially important in advertising, where subliminal messaging strategies have evolved to focus on rapid, clear cues instead of longer, complex narratives.

The theoretical basis for this is also supported by dual-process theories, which propose that subliminal messages are more effective when processed through the automatic, fast-processing system of the brain rather than the slow, deliberate system (Evans, 2008). Consequently, the more complex a subliminal message is, the more it risks engaging conscious scrutiny, thereby losing its subliminal nature. Karremans, Stroebe, and Claus (2006) demonstrated that simple brand-related cues, like the flashing of a beverage brand name, had a significant impact on thirsty participants. However, there is little evidence to

suggest that complex messages, like slogans or narratives, have a similar subliminal influence.

In digital environments, message complexity becomes even more critical. Fast-paced online content demands quick attention spans, which makes simple subliminal cues more effective. LaMarco (2018) notes that advertisers prefer minimalistic subliminal cues, such as brief flashes of product images, because these are more compatible with how the subconscious mind processes online information. In therapeutic contexts, such as behavior modification programs, subliminal audio messages also tend to use simple affirmations or single-word prompts because complex phrases may not produce consistent results (Irianto, 2015).

2.3.6 Familiarity:

Familiarity is a crucial element in determining the success of subliminal messages. Familiar stimuli, such as known brand names, familiar symbols, or commonly used words, are more effectively processed by the subconscious compared to novel or unfamiliar stimuli (Karremans, Stroebe, & Claus, 2006). This is because familiar items activate pre-existing neural pathways and memory associations, which facilitate quicker recognition and response without requiring conscious awareness. Studies have consistently shown that subliminal messages are more likely to influence attitudes and behaviors when the target audience is already familiar with the stimulus (Bashir, Qamar, Abrar, & Husnain, 2019).

Theories of priming support this concept. Priming refers to the activation of mental associations through exposure to stimuli. Familiar stimuli tend to create stronger priming effects because individuals have existing cognitive schemas associated with them (Dixon, 1971). For example, Karremans et al. (2006) showed that subliminal exposure to the familiar brand “Lipton Ice” led to an increased likelihood of participants choosing that beverage, particularly when they were thirsty. In contrast, unfamiliar brand names did not elicit similar responses. This phenomenon is explained by the ease of processing familiar information, also known as processing fluency, which creates positive feelings and increases the persuasive impact of subliminal cues (Elci & Sert, 2015).

Marketing studies further validate the role of familiarity. Bashir et al. (2019) observed that subliminal advertising techniques using globally recognized logos or brand symbols were more successful in affecting consumer behavior than lesser-known brands. This effect is especially pronounced in modern digital environments, where people are exposed to thousands of stimuli per day. Familiar cues act as cognitive shortcuts, allowing the subconscious to process information rapidly without engaging in complex analysis (LaMarco,

2018). Neuroscientific research using fMRI and EEG also supports the connection between familiarity and subliminal effectiveness. Elci and Sert (2015) indicated that familiar stimuli tend to activate memory-related regions such as the hippocampus more robustly compared to unfamiliar stimuli. This biological evidence confirms that the subconscious is more attuned to processing familiar cues, which enhances the likelihood of influencing behavior subconsciously. However, researchers have also noted limits to the familiarity effect. Irianto (2015) points out that while familiarity enhances recognition and preference, it may not always translate into behavioral change if there is no existing motivation or need. This suggests that while familiarity increases the efficiency of subliminal processing, it must often be combined with other factors like goal relevance to generate stronger behavioral effects.

2.3.7 Goal Relevance:

Goal relevance is one of the most influential factors in determining the success of subliminal messaging. Subliminal cues tend to be more effective when they are aligned with the individual's current needs or objectives. Research by Karremans, Stroebe, and Claus (2006) provided strong evidence that subliminally priming a product is only effective when it corresponds to a participant's immediate goals. For example, participants subliminally exposed to the name of a beverage brand only showed a preference for that brand when they were thirsty, highlighting the critical importance of goal relevance.

The concept of motivational priming underpins these findings. When an individual has an active goal or unmet need, subliminal stimuli related to that goal are more likely to influence behavior because the subconscious mind is primed to respond to relevant cues (Dixon, 1971). Elci and Sert (2015) explain that goal-congruent subliminal messages act as subconscious nudges, reinforcing tendencies already present rather than creating new motivations. Conversely, subliminal messages unrelated to personal goals typically have weak or negligible effects, as the subconscious system filters them out due to irrelevance. Bashir, Qamar, Abrar, and Husnain (2019) similarly argued that subliminal persuasion is maximized when the stimulus resonates with an individual's situational context or personal objectives. This is particularly evident in consumer behavior, where advertisements using goal-relevant subliminal cues, like hydration or relaxation, outperform generic or unrelated subliminal messages. LaMarco (2018) points out that modern advertising strategies increasingly attempt to identify consumer goals in real-time, especially in digital platforms, to deliver personalized subliminal cues.

The role of goal relevance extends beyond consumer marketing. In psychological and

therapeutic applications, subliminal audio programs targeting self-improvement goals—such as quitting smoking or enhancing self-confidence—demonstrate better results when the message is closely aligned with personal aspirations (Irianto, 2015). This further supports the hypothesis that subliminal messaging acts most effectively as a reinforcement tool rather than a primary driver of behavior. Recent neuroscience research supports these behavioral findings by showing heightened activation in motivational brain regions when subliminal stimuli correspond to current goals (Elci & Sert, 2015). This neurological evidence illustrates that the subconscious mind prioritizes goal-relevant information for faster processing, which explains the stronger behavioral responses observed in experiments.

2.4 Subliminal Advertisements:

Giles (2003) discusses that several academic studies have indicated advertising messages can be implanted into an individual's memory through brief, persuasive cues presented within television programs or movies. Essentially, this technique, known as subliminal advertising, involves the subtle use of unconscious messaging to promote products (Shimp, 2010). Although debates persist regarding the validity of such findings, one of the most notable early experiments in this field was conducted by James Vicary in the 1950s. Vicary claimed subliminal messages during a movie screening could influence audience behavior. However, Giles (2003) points out that despite the lack of solid scientific backing for Vicary's study, the concept of subliminal advertising has become embedded in modern culture. Giles further explains that while subliminal advertising is debated, some researchers argue it may have certain impacts on unconscious mental processing.

Due to ethical considerations, certain nations have chosen to prohibit the use of subliminal advertising. Wrona (2008) addresses similar discussions regarding these restrictions. According to English regulations, specifically Rule 2.12 of the Ofcom Broadcasting Code, there is an explicit prohibition on subliminal advertising practices. This form of advertising is believed to manipulate the viewers' or listeners' subconscious, delivering messages or influencing decisions without their conscious realization, usually through fleeting images or sounds (Ofcom, as cited in Wrona, 2008). Despite the absence of concrete proof of its effectiveness, authorities maintain this prohibition because the audience remains unaware of such influences.

In addition, self-regulatory bodies have also restricted subliminal advertising. Nevertheless, neither Ofcom nor the Advertising Standards Authority (ASA) have made definitive rulings

or taken legal action on subliminal advertisements (Wrona, 2008). Wrona (2008) contends these rules appear even more outdated compared to contemporary regulations on product placement, and it remains uncertain if lifting such bans would lead to an increase in subliminal advertising practices.

On the contrary, there is considerable skepticism regarding the actual influence of subliminal advertising. Shimp (2010) mentions that academic circles remain divided on the subject. Shimp elaborates by categorizing subliminal stimuli into three distinct types: rapidly flashed visual elements (as seen in Vicary's research), sped-up audio messages, and hidden symbolic imagery. Moreover, he questions Key's claims, explaining that subtle hidden images, particularly those of a sexual nature, may not have any measurable effect on consumer attitudes or behavior, given the complexity of unconscious processing.

Additional variables further complicate this phenomenon, such as individual consumer preferences at the time of exposure, brand loyalty, and market competition. Shimp argues that even traditional advertising struggles to reliably influence consumer behavior, making the efficacy of subliminal techniques even more doubtful. Supporting this, Meyer (2011) highlights that most marketers prioritize supraliminal advertising strategies, which target conscious awareness, over subliminal techniques that bypass conscious recognition. Nonetheless, consumers often show a heightened sensitivity to subliminal advertising discussions, likely due to concerns about manipulation.

2.4.1 History:

Researchers have frequently credited Vicary with pioneering the concept of subliminal advertising. However, a few scholarly sources suggest that Vicary was not the first to coin the term "subliminal message." According to Takahashi (2008), the concept of subliminal messaging predates Vicary's experiment, with its earliest known mention in Scripture's book, *The New Psychology* published in 1907. This book laid down the foundation by explaining the fundamental concept and mechanisms behind subliminal messages. Following this, Knight Dunlap, a psychology professor from America, used subliminal visual cues in his research to influence subjects' judgments about line lengths, concluding that shadows impacted perceptions at a subconscious level (Wikipedia, 2007). Further historical developments occurred during World War II, when, as Melvin¹ explained, visual subliminal stimuli were used in military training. This technology helped soldiers quickly identify

¹ Retrieved November 11, 2007, from <http://www.mind-course.com/subliminal.html>

enemy aircraft within 1/100th of a second (Takahashi, 2008). Later, in 1957, James Vicary, an advertising executive, conducted his well-known experiment by inserting the phrases “EAT POPCORN” and “DRINK COKE” into a movie screening, claiming that this led to an 18% rise in Coca-Cola sales and over a 50% increase in popcorn sales (Sandoval et al., 2019).

The same year, Vance Packard published *The Hidden Persuaders*, a book that exposed the usage of subliminal techniques in advertisements. Packard highlighted the various forms of subliminal messaging and stressed the importance of raising public awareness about these covert advertising strategies (Love, 2011). Subsequently, Dr. Wilson Bryan Key’s 1973 book *Subliminal Seduction* reignited the debate by illustrating how sexual imagery in advertising was used to subconsciously manipulate consumer behavior, emphasizing sex as a powerful subliminal tool (Reichel, 1979). In 1981, Norman F. Dixon’s work *Preconscious Processing* compiled extensive research data on subliminal stimuli and unconscious awareness. Dixon focused on how preconscious factors influence subjective experiences and stressed the hidden impact of subconscious cues on consumer behavior (Merikle, 2007). Continuing this discourse, Dr. Wilson Bryan Key in 1989 authored *The Age of Manipulation: The Con in Confidence and the Sin in Sincere*, where he analyzed how print and television media exploited consumer senses through subliminal techniques. He specifically investigated why Americans seemed particularly susceptible to these hidden influences (Love, 2011).

In 1994, Jack Haberstroh's publication *Ice Cube Sex: The Truth about Subliminal Advertising* examined the historical background, legality, and effectiveness of subliminal advertising. Haberstroh concluded that sexual imagery remained the most influential subliminal trigger for altering consumer attitudes. Further exploration of subliminal advertising was provided by Bullock (2004) in his book *The Secret Sales Pitch: An Overview of Subliminal Advertising*, where he analyzed the use of optical illusions in mass media to subtly manipulate consumer decisions, noting these methods as provocative (Broyles, 1984). Samuel (2011), through his book *Freud on Madison Avenue: Motivation Research and Subliminal Advertising in America*, studied Freud’s psychoanalytic theories, explaining how subconscious motives drive irrational consumer behavior. Samuel highlighted how the unconscious mind plays a pivotal role in shaping purchasing decisions beyond mere advertising (Samuel, 2011).

Mlodinow (2012), in *Subliminal: How Your Unconscious Mind Rules Your Behavior*, provided empirical evidence suggesting that subliminal messages have a direct influence on consumer choices, supporting his arguments through numerous real-life examples. In more

recent years, Einstein (2016), in her book *Black Ops Advertising: Native Ads, Content Marketing, and the Covert World of the Digital Sell*, discussed the growing concerns surrounding subliminal messaging in digital and native advertising. She argued that modern marketing techniques have blurred the lines between content and covert persuasion, particularly in print and online media, posing threats to consumer rights. Lakhani (2018), in *Subliminal Persuasion: Influence and Marketing Secrets They Don't Want You to Know*, described how advertisers manipulate consumer emotions through hidden messages, influencing purchase decisions subconsciously. Grey (2018), in *Advertising and Psychology: The Perfect Duo: The Subliminal Hidden Message*, explored the psychological aspects of advertising, establishing a positive relationship between advertising and consumer perception. Grey's work also offered practical strategies for marketers to effectively target their desired audience.

2.4.2 Characteristics:

Subliminal advertising refers to marketing techniques that convey persuasive messages beneath the threshold of conscious perception, influencing consumer behavior without their explicit awareness (Atress, 2012; Bratu, 2010). One of the most defining features of subliminal advertising is its ability to bypass conscious cognitive filters and directly target the subconscious mind of individuals. This is often achieved by embedding hidden messages, symbols, or cues in advertisements that are processed by the human brain but remain unnoticed by conscious awareness (Espley, Savitsky, & Kachelski, 1999; Cannals & Adriana, 2014; Chavda, 2021). Visual stimuli such as rapid flashes of images, symbolic representations, and background designs are commonly used, while auditory subliminal cues involve low-volume messages or sounds that influence moods and attitudes without being consciously heard (Emsenhembur, 2010). Moreover, the emergence of scent marketing demonstrates that even olfactory signals can be employed to create subconscious associations between brands and consumer emotions (Emsenhembur, 2010).

One of the most widely studied characteristics of subliminal advertising is its reliance on emotional manipulation, with sexual content being the most prevalent theme. Multiple studies have shown that sexual imagery embedded in advertisements significantly increases attention, memory retention, and brand recall among consumers (Reichert, 2002; Cannals & Adriana, 2014; Haberstroh, 1994). Lantos (1996) and Kelly (1979) both emphasized that such subliminal embeds evoke instinctive responses, making the advertisements more effective without consumers realizing the underlying influence. Furthermore, subliminal advertising is

characterized by its ability to subtly manipulate consumer behavior, often encouraging impulsive buying decisions by exploiting human psychological weaknesses (Moore, 1982; Moore, 1992). Researchers like Hanzae et al. (2011) argue that subliminal messages are carefully designed to activate subconscious desires, such as the need for status, belongingness, or instant gratification, which in turn shape purchase intentions and brand preferences without overt persuasion.

Another distinctive characteristic is the ethical controversy surrounding subliminal advertising. Since these hidden messages operate covertly, many scholars and regulatory bodies have questioned the fairness and morality of influencing consumers without their informed consent (Nelson, 2006; Kiran & Kishore, 2013). Critics argue that subliminal techniques deceive consumers by encouraging behaviors they might not consciously choose, thereby breaching ethical marketing practices (Kelly, 1979; Zanot, Pincus, & Lamp, 1989). This concern is further amplified by the difficulty of detecting subliminal content, which allows marketers to embed such messages in a way that escapes legal scrutiny (Parpis, 2003; Praktanis & Aronson, 1991).

The characteristics of subliminal advertising have evolved with technological advancements. Initially prevalent in traditional media like print and television advertisements, subliminal techniques have now infiltrated modern digital marketing platforms (Einstein, 2016; Vögeli, 2017). This evolution has expanded the avenues for subliminal influence, with native advertising, influencer marketing, and social media content increasingly incorporating hidden persuasive elements (Meeuwisse, 2019; Swingle, 2016). Scholars such as Samuel (2013) and Dundes (2019) have emphasized the growing role of digital environments in subtly shaping consumer preferences through subconscious pathways. Subliminal advertising today also benefits from advanced psychological research and behavioral analytics, enabling marketers to design highly targeted messages that align with consumers' personal interests, browsing habits, and emotional triggers (Eyal, 2014; Levine, 2003).

However, studies have also acknowledged the limitations of subliminal advertising. Factors such as cognitive maturity, skepticism, and consumer awareness can reduce its effectiveness (Wang, 2015). Children and young adults, who have lower levels of persuasion knowledge, may be more susceptible to subliminal cues, while older consumers with greater critical thinking skills may resist such hidden influences (Wiklik, 2000; Rasmussen et al., 2014). Additionally, scholars like Martyn (1997) and Kirkwood (1987) have pointed out that the impact of subliminal advertising may vary significantly based on cultural differences, media literacy, and individual psychological traits.

In conclusion, subliminal advertising is characterized by a complex combination of unconscious influence, emotional appeal (especially sexual themes), covert persuasion strategies, ethical ambiguities, technological adaptability, and varied effectiveness across demographic segments. It remains a controversial yet persistent strategy in modern marketing, continuously evolving with advancements in media and consumer psychology (Atress, 2012; Samuel, 2013; Dundes, 2019; Haberstroh, 1994; Bratu, 2010).

2.5 Subliminal Advertisements in Media:

According to Phillips (1997), subliminal techniques have been observed in diverse settings, such as the insertion of hidden words and images in horror movies, unnoticed verbal cues in popular music tracks, and covert anti-theft prompts embedded in songs played within retail environments. Moreover, subliminal persuasion has been used in radio broadcasting through subtle write-in campaigns and in television broadcasts via concealed public service announcements. Due to the extensive range of subliminal methods, this section focuses particularly on visual and auditory subliminal cues. Specific examples include hidden frames and rapid imagery within films and television programs (including both advertisements and entertainment shows), low-frequency audio messages embedded in musical compositions, and imperceptible visual signals in print advertisements (Moore, 1982; Broyles, 2006).

Research also shows that subliminal messaging takes many nuanced forms based on the sensory channel being targeted. For example, visual subliminal messages frequently involve single-frame images flashed briefly on a screen—too quickly for conscious recognition but long enough to be processed subconsciously (Kelly, 1979). In audio formats, masked messages are delivered at frequencies either too low or too high for conscious detection but capable of affecting subconscious thought (Emsenhembur, 2010). Furthermore, scent-based subliminal cues are emerging in retail settings, leveraging specific fragrances to evoke certain emotions and influence purchase decisions (Emsenhembur, 2010). Modern digital advertising has expanded these strategies, introducing subliminal cues in online videos, influencer endorsements, and social media content, often making it even more challenging for audiences to consciously identify these influences (Einstein, 2016; Meeuwisse, 2019). Collectively, these examples demonstrate the adaptability of subliminal advertising across both traditional and modern media landscapes, raising ongoing debates about its psychological impact and ethical implications (Samuel, 2013; Dundes, 2019).

2.5.1 Movies & Television:

In the diverse and vibrant landscape of Indian media, subliminal advertising has emerged as a nuanced and often controversial marketing strategy. This form of advertising involves embedding words, images, sounds, or messages below the threshold of conscious perception, subtly influencing consumer behavior without their explicit awareness (Booker, 2010). Globally, instances of subliminal messaging have been widely debated, such as the hidden word “sex” appearing momentarily in Disney’s *The Lion King* or the controversial imagery noticed in *The Little Mermaid* (King et al., 2010; Straubhaar, 2011). Similar parallels can be drawn within Indian cinema and television, where the presence of subliminal cues is gradually becoming more pervasive, though not as extensively researched. In India, a country where cinema holds immense cultural significance, the incorporation of hidden messages through brief visual flashes, background sounds, or product placements has sparked conversations about ethical boundaries in marketing practices.

Subliminal messaging in India can take multiple forms, particularly in Bollywood and the growing Indian digital streaming industry. One of the most common techniques involves covert product placement within movies and web series, where brands are subtly promoted without direct advertisement. For instance, leading Bollywood blockbusters like “Chennai Express,” “Zindagi Na Milegi Dobara,” and “Yeh Jawaani Hai Deewani” have been known to feature popular travel destinations, premium liquor brands, and luxury automobiles in a manner that seamlessly blends with the storyline. The products or services are not highlighted as advertisements but are shown in a natural setting, enhancing both the aspirational appeal of the brand and the visual storytelling (Straubhaar et al., 2011). Such embedded marketing tactics aim to influence viewers' preferences and purchase decisions through indirect exposure, making subliminal messaging a powerful tool for marketers in India. Another sophisticated method of subliminal messaging in Indian cinema involves the use of fast-moving visual frames, often called “single-frame inserts.” These are frames that flash across the screen for such a brief period—typically within 1/24th of a second—that the conscious mind fails to register them, but the subconscious mind may still process them. This tactic has been widely used in Western films but is increasingly being noticed in Indian thriller and horror movies, where quick flashes of certain visuals or brand insignias are used to create emotional triggers or brand recall. According to Straubhaar et al. (2011), such subliminal insertions are meant to bypass the consumer’s rational filtering system, creating a subtle impact on attitudes and behaviors without overt persuasion.

Mueller (2012) has argued that the practice of subliminal advertising has become nearly

ubiquitous in contemporary cinema, particularly in blockbuster films that enjoy mass appeal. In the Indian context, the growing integration of subliminal advertising is also evident in mainstream television serials, digital platforms like Netflix India, Amazon Prime Video, and Disney+ Hotstar, as well as on social media platforms like YouTube and Instagram. Brands have increasingly adopted indirect marketing strategies through influencer collaborations, where product names or services are either subtly shown in the background or mentioned briefly in conversation, creating a subconscious brand imprint. This strategy aligns with the changing media consumption patterns of Indian audiences who are increasingly engaging with content on personal devices where advertisements are more seamlessly integrated. A report by the Indian Journal of Marketing (Sharma & Singh, 2020) highlights that in a rapidly digitizing country like India, subliminal messages are not only restricted to visual cues but also include audio forms. Audio subliminal messages are often embedded in the background scores of films, television serials, or even radio jingles. Soft whispers of brand names, positive affirmations about a product, or rhythmic patterns that associate a brand with pleasant emotions are becoming more prevalent. This strategy is particularly effective in engaging rural and semi-urban populations in India where literacy levels may vary but auditory cues remain influential in shaping consumer preferences.

From a psychological perspective, subliminal advertising operates by appealing to the unconscious mind, triggering emotional and instinctive responses that bypass conscious resistance (Booker, 2010). This technique is especially potent in a culturally diverse society like India, where consumer decision-making is influenced not only by rational evaluation but also by social cues, traditions, and emotional associations. Marketers in India increasingly leverage subliminal messaging to create associations between their products and aspirational lifestyles, cultural values, or emotional fulfillment. This manipulation is subtle yet powerful, often leading consumers to prefer certain brands without fully realizing the underlying influences. Nevertheless, subliminal advertising in India, as in other countries, is a subject of ethical debate. Critics argue that such covert techniques exploit psychological vulnerabilities and undermine informed consumer choice. Ethical concerns have been raised regarding the manipulation of children's programming, especially given the popularity of animated movies and cartoon channels like Pogo, Disney Channel India, and Cartoon Network India. Scholars such as Kiran and Kishore (2013) have pointed out that subliminal techniques used in advertisements targeted at children can have lasting effects on their preferences and consumption patterns, raising questions about corporate responsibility. Despite these concerns, India lacks comprehensive legal frameworks specifically addressing subliminal

advertising. While general advertising is regulated by bodies like the Advertising Standards Council of India (ASCI) and the Ministry of Information and Broadcasting, subliminal messaging remains a grey area due to the difficulty in proving its influence and identifying its occurrence. Some researchers argue that this regulatory gap allows companies to exploit subliminal techniques with minimal accountability (Sharma & Singh, 2020).

Interestingly, the use of subliminal advertising has also expanded into political campaigns in India. With the advent of social media campaigning, subtle imagery, colors, or background sounds in political advertisements are crafted to influence voter behavior subliminally. The Election Commission of India has flagged concerns over these emerging tactics, noting their potential to manipulate voter sentiment without their conscious realization (Chaudhary & Gupta, 2021). This extension of subliminal messaging beyond commercial purposes into the socio-political arena highlights the growing influence of such methods in shaping public opinion.

2.5.2 Music

A key study by Karremans et al. (2006) demonstrated that subliminal messages embedded in audio and visual stimuli can influence preferences and attitudes, particularly when the subliminal cues align with a pre-existing need or desire. In the context of music, Harrison and Hughes (2010) reviewed evidence suggesting that consumers exposed to subliminal music with embedded brand names tend to favor the advertised brand, indicating a form of subtle persuasion that operates outside of conscious awareness. The psychological basis for subliminal messaging in music is rooted in dual-process theory, which posits that human cognition operates through both conscious and unconscious pathways (Krosnick et al., 2006). Subliminal music advertisements target these unconscious processes, where repeated exposure to specific auditory cues or emotional tones can subtly affect preferences without the listener's direct awareness. For instance, music embedded with relaxing tones or positive affirmations may influence consumer mood and affective responses, potentially driving purchasing behavior through emotional associations.

Additionally, backward masking—where audio messages are played in reverse—has been explored for its ability to impact listeners at a subconscious level. While some researchers claim that such messages can influence the subconscious, others argue that the brain's ability to process reversed audio is limited, rendering the technique largely ineffective in real-world applications (Wiener & Muenchen, 2007). Despite these claims, the effectiveness of subliminal messages in music remains a subject of debate. Greenwald et al. (1991) contend

that subliminal messaging has a minimal effect on consumer behavior when compared to overt advertising. The challenge with subliminal music advertising lies in its subtlety. Although embedded sounds and backward messages may create a certain atmosphere, their direct influence on purchasing decisions is often difficult to measure.

The use of subliminal advertisements in music also raises significant ethical concerns. Critics argue that embedding hidden messages within music or media infringes on consumers' autonomy, manipulating their decision-making processes without their awareness or consent. Research by Vokey and Read (1992) highlights the potential risks of such techniques, emphasizing the need for transparency in advertising practices. Furthermore, as consumers become more aware of these tactics, the ethical implications of using subliminal advertising may outweigh its potential benefits.

2.5.3 Print Advertisements

Subliminal advertising in print media has been a topic of intrigue and controversy since the concept was first introduced. Subliminal messages, which are designed to influence consumer behavior without their conscious awareness, are often embedded in visual elements of print media, such as magazine ads, billboards, posters, or product packaging. These messages may be presented in subtle forms, such as faint text, hidden images, or subliminal cues that blend into the background, making them difficult to detect by the conscious mind. While the effectiveness and ethical implications of subliminal advertising have been widely debated, numerous studies have explored its potential impact on consumer behavior and decision-making.

The early research on subliminal advertising in print media was inspired by the success of the infamous 1950s "subliminal tapes" experiment, where advertisers claimed to have embedded hidden messages in advertisements that subconsciously influenced consumer behavior. However, as concerns about ethical practices grew, subsequent studies attempted to verify the real-world effectiveness of these techniques. A key study by Vokey and Read (1992) reviewed subliminal advertising's influence on both visual and auditory stimuli, including print advertisements, and found that while subliminal cues could affect attitudes, the effects were often short-lived and difficult to replicate in controlled environments. Further studies, such as those by Greenwald et al. (1991), suggested that subliminal messages, when present in print media, may have minimal effects on consumer behavior. In their research, participants exposed to subliminal cues in advertisements did not show significant changes in purchasing decisions compared to those exposed to overt advertising. These findings

challenged earlier claims that subliminal messages could drive consumer behavior in a meaningful way. Some researchers argue that for subliminal cues to influence purchasing decisions, they must align with an individual's existing needs or desires. This idea was reinforced by Karremans et al. (2006), who found that subliminal cues are more likely to have an impact when they tap into pre-existing preferences.

Despite the mixed results, several studies have suggested that subliminal messages in print advertisements may have an impact on attitude formation and brand preference. For example, a study by Janiszewski (1993) found that subliminal visual cues, such as the use of certain colors, shapes, or symbolic images in advertisements, could subtly shape consumers' emotional responses and attitudes toward a product. These cues, although not immediately noticeable, can create positive associations that influence a consumer's subconscious preferences, potentially guiding their decisions in favor of the advertised product. However, the effects tend to be limited and vary based on the individual's level of attention, familiarity with the brand, and personal interests. The ethical concerns surrounding subliminal advertising in print media have been a subject of ongoing debate. Critics argue that such practices manipulate consumers without their consent, violating the ethical principles of informed choice and autonomy. Vokey and Read (1992) highlighted these ethical issues, emphasizing that subliminal techniques can create an unfair advantage for advertisers, as they exploit the unconscious mind to influence consumer decisions. Furthermore, the potential for misuse, such as in political or ideological campaigns, has raised concerns about the broader implications of subliminal messaging.

2.6 Effects of Subliminal Advertisements:

Treimer and Simonson (1988) conducted an experiment to explore the impact of watching a commercial videotape containing subliminal messages on weight loss. The videotape did not include any specific diet or exercise plan but only required viewers to be willing to change their eating and exercise habits and watch the tape for 30 days. The participants were assessed using Food Intake Recall (FIR), Weight and Skinfold Test (WST), and Food and Exercise Attitude Test (FEAT). The participants were split into two groups: a control group that watched the 22-minute weight loss video without subliminal messages at least 25 times over 35 days, and an experimental group that watched the same video with subliminal messages for the same period. The results revealed no significant differences in the three measurements for both groups, leading to the conclusion that subliminal messages did not

effectively promote weight loss or alter body fat percentage, nor did they change the participants' attitudes toward food and exercise. Gable et al. (1987) argued that sexually suggestive stimuli embedded in messages do not significantly influence consumer preferences. Their study involved photographing particular product items and presenting two sets of photos: one set had embedded sexual stimuli while the other did not. The participants were shown both sets of images and asked to choose their preferred option after a few seconds. Their findings indicated no significant difference in preferences between the two groups, concluding that sexual messages did not notably affect consumer choice. A telephone survey conducted by Block and Bergh (1985) examined consumer attitudes toward subliminal messages in self-improvement products. They found that respondents were generally skeptical about the effectiveness of subliminal techniques for weight loss, smoking cessation, and improving study habits. However, they expressed greater confidence in subliminal advertising's ability to influence product sales. Historically, many retail stores attempted to incorporate subliminal messages into their music systems in an effort to reduce shoplifting and improve employee behavior. These stores reported successes, but such claims lacked scientific validation through controlled laboratory experiments (Segrave, 2001; Sparks, 2012). Similarly, Alyesworth et al. (1999) suggested that subliminal stimuli embedded in advertisements may subtly affect consumer attitudes towards products. However, their study concluded that these effects were not strong enough to be considered a significant factor in altering consumer behavior.

A variety of studies have explored the topic of subliminal messages and their effects (Trappey, 1996). Many of these studies suggest that subliminal messages can have a slight influence on a viewer's emotional response (Aylesworth, Goodstein, & Kalra, 1999; Edell & Burke, 1989, 1987; Batra & Ray, 1986). This is important because research shows that the emotions a person experiences in reaction to an advertisement play a significant role in determining the ad's overall effectiveness (Edell & Burke, 1987). However, fewer studies have provided evidence that subliminal messages can affect judgment (Greenwald, Draine, & Abrams, 1996; Merikle & Joordens, 1997; Marcel, 1983). Moreover, there is limited research showing that subliminal messages can directly influence behavior (Bargh, Chen, & Burrows, 1996). The studies demonstrating behavioral effects of subliminal messages have generally been conducted in controlled laboratory environments (Epley, Savitsky, & Kachelski, 1999). Advertisers are naturally concerned with the emotional responses consumers have toward their products, but their interest extends further to how persuasive an ad is and whether it increases the likelihood of purchasing the product. While this study will provide insights into

the impact of subliminal messages on feelings, judgments, attitudes toward the advertisement, and purchase intentions, it will not establish whether these factors will lead to a higher likelihood of purchasing the advertised product—something marketers are typically most focused on.

2.7 Thresholds of Human Conscious and Unconscious Mind:

Subliminal advertising is intricately linked to the different layers of human consciousness. To fully grasp the concept of subliminal advertising, it is essential to delve into the various levels of consciousness. The term *consciousness*, as defined by the Cambridge Dictionary, refers to "a person's awareness or perception of something" or "the state of being aware of and responsive to one's surroundings." Numerous theories about human consciousness have been proposed by different civilizations, and understanding these theories is crucial for comprehending subliminal advertising. For instance, the Mayan and Incan perspectives on consciousness describe it as the human awareness of both internal and external stimuli. The Mayans, in particular, categorized consciousness into four distinct levels: spiritual, psychological, medical, and moral. A significant theory, Cartesian Dualism, was introduced by 17th-century philosopher René Descartes. According to Descartes, consciousness resides in an immaterial domain (the realm of thought), contrasting with the material domain (the realm of extension). Social psychology also views consciousness as a developmental process, not a singular entity, progressing through higher stages such as cognitive, moral, and spiritual levels.

Sigmund Freud, the renowned psychoanalyst, proposed a model in 1897 that suggests an individual's behavior arises from the interaction of three psychological forces operating at different levels of consciousness. Freud's model includes the conscious mind, the preconscious mind, and the unconscious mind. The conscious mind encompasses all thoughts, beliefs, and memories that a person is aware of in the present moment. This part of consciousness is where rational thinking and verbalization occur. The preconscious mind, on the other hand, holds thoughts, memories, and beliefs that could easily be brought into the conscious awareness when needed. Lastly, the unconscious mind contains all the feelings, memories, thoughts, and beliefs that remain beyond the reach of conscious awareness. Expanding on this concept, Kain Ramsay (2019) proposed a three-tiered model of human consciousness: the conscious, subconscious, and unconscious states. According to Ramsay, the conscious state is the immediate awareness of information. When we receive data through

our senses, analyze it, and then act upon it, this occurs at the conscious level. The subconscious (or preconscious) level, however, serves as a repository for all past experiences and the impressions left by these experiences. These stored impressions, along with reinforced tendencies, influence an individual's thought patterns, beliefs, and behavior. The subconscious mind holds every experience and thought, and while it significantly influences an individual, the information within it can be retrieved relatively easily. The final tier of consciousness, according to Ramsay, is the *Unconscious*, which contains deeply buried thoughts, memories, desires, and beliefs that individuals are typically unaware of. While these elements remain out of conscious awareness, they significantly influence the person's behavior. These stored contents are not easily accessible to the individual and often operate outside of their conscious control. In 2016, Thomas Abel Mason introduced an additional layer to the understanding of human consciousness, classifying it into four distinct levels: Conscious, Preconscious, Unconscious, and *Non-conscious*. The *Non-conscious* level pertains to physiological processes that do not require conscious attention, such as heart rate and breathing.

Bentinho Massaro (2019) proposed an even more detailed five-level model of human consciousness. According to Massaro, human consciousness consists of the following five levels: The *Conscious* state, which serves as a repository for thoughts; The *Subconscious*, where emotions tied to personal beliefs are stored; The *Unconscious*, which holds deeply ingrained beliefs; The *Points of View*, a level where personal opinions are shaped by the frequency at which thoughts resonate; and finally, *The I Am Consciousness*, a state of individuation where "all that is" resides. In 2014, Richard Barrett introduced an innovative seven-level model of human consciousness. The first level, *Survival Consciousness*, contains experiences and memories related to an individual's basic survival instincts. The second level, *Relationship Consciousness*, focuses on safety and contains memories linked to interpersonal relationships. *Self-Esteem Consciousness*, the third level, holds an individual's sense of security within their community. The fourth level, *Transformational Consciousness*, relates to an individual's drive for freedom and desire to transcend childhood conditioning. The fifth level, *Internal Cohesion Consciousness*, stores the search for personal life purpose. The sixth level, *Making a Difference Consciousness*, reflects the individual's drive to make an impact in their surroundings, whether at work, home, or within the community. The seventh and final level, *Service Consciousness*, encapsulates the urges to engage in selfless acts for others.

Joseph Murphy, the author of the renowned book *The Power of Your Subconscious Mind*

(1963), emphasized the substantial role of the subconscious in shaping human behavior. He argued that approximately 90% of human decision-making is driven by subconscious processes. Numerous studies have explored the relationship between the subconscious mind and human behavior, illustrating how it influences speech, decision-making, thought patterns, and lifestyle choices (Affendy, 2014). Murphy's work sought to clarify how human decisions are influenced by subconscious mechanisms, with his qualitative research concluding that the subconscious mind significantly impacts decision-making. A.K. Pradeep (2011) also highlighted the central role of the subconscious in consumer decision-making. He argued that marketers must delve into the subconscious of consumers in order to effectively sell their products. His study explored the intricacies of how the mind works when making purchasing decisions, asserting that 90% of the decision-making process occurs unconsciously. To communicate and persuade consumers effectively, marketers need to engage the unconscious mind of the consumer (Weinschenk, 2011). In 2017, Steven D. Shaw provided valuable insights from neuroscience to help marketers better understand consumer psychology. He explained that the majority of consumer decisions, while appearing to be conscious, are actually driven by unconscious processes. Shaw emphasized that tapping into the subconscious mind allows marketers to influence consumer decisions more effectively. Research by Max, Planck & Gesellschaft (2008) reinforced this, demonstrating that the decision-making process is primarily unconscious, with the subconscious and unconscious minds playing key roles. Benedict Carey (2006) similarly noted that the unconscious mind has a much greater capacity for processing information than the conscious mind, and most decisions are made without the individual's conscious awareness. In an experiment conducted with 80 students, Carey demonstrated that the unconscious mind tends to make more rational and effective decisions compared to the conscious mind.

The challenge of identifying unconscious influences on complex decision-making can be addressed by studying unconscious impacts on simpler subliminal tasks (Snodgrass & Shevrin, 2014). Their research suggested that while the unconscious plays a significant role in influencing simpler decisions, its effect on complex choices remains less clear. Nicole Branan (2008) explored how unconscious predictive activity in the brain, specifically in the prefrontal cortex, is closely linked to decision-making. These findings underscore that actions often arise from pre-conscious brain activity patterns, rather than conscious thought, meaning much of human decision-making occurs at an unconscious level. Ben R. Newell and David R. Shank (2014) introduced a framework based on cognitive theories about unconscious decision-making. Their study reviewed several major lines of research into unconscious

decision-making: multiple-cue judgment, deliberation without attention, and decision-making under uncertainty. They identified three primary reasons for the erroneous attribution of unconscious influence: inadequate methods for assessing awareness, failure to consider alternative explanations for key findings, and a tendency to accept conclusions that align with an individual's intentions. However, some scholars, like Magda Osman (2017), have questioned the prevailing view that the unconscious plays a major role in complex decision-making. Osman challenged cognitive theories of unconscious decision-making, arguing that people are often aware of, or can recall, the intentions behind their actions, even when those actions are seemingly driven by unconscious processes.

2.8 Subliminal Advertisements: Emotions, Consumer Perception, Attitude

Subliminal advertising has been a topic of controversy since its inception. While some research indicates significant effects on consumer attitudes, perceptions, intentions, and buying decisions, other studies dismiss it as a mere myth. This literature review aims to explore both perspectives of subliminal advertising, ensuring an unbiased approach. A study by Ghada W. El-Tazy and Hesham O. Dinana (2018) suggested that the use of humor and hidden meanings in ads positively influences consumer attitudes, which, in turn, enhances the likelihood of purchase. However, the actual impact of attitude on the purchasing decision was found to be minimal. The study involved five interviews with advertising professionals and two focus groups—one with youth and another with adults. August Bullock (2004) argued that subliminal messages can be powerful tools to influence behavior. Karam et al. (2017) conducted research involving 20 participants who were exposed to subliminal messages through CDs, confirming that such messages influence consumer choices.

Research by Johan C. Karremans, Wolfgang Stroebe, and Jasper Claus (2006) found that subliminal priming positively affected consumer attitudes towards brands. Their study, which replicated Vicary's famous experiment, reinforced the idea that subliminal cues can significantly alter decision-making. A study by Fayaz Ahmad Nika et al. (2013) examined the effect of subliminal messages on consumers' cognitive and emotional responses, noting that women tend to exhibit more irrational behavior when exposed to such stimuli than men. This study, conducted in Jammu & Kashmir, highlighted a noticeable difference between male and female reactions to subliminal cues. Canals & Herrerias (2014) also discovered that men are more impacted by sensuous subliminal stimuli than women. In their experimental study with 52 participants (26 men and 26 women), they concluded that hidden sensuous content

influences consumer attitudes, with men showing a stronger reaction than women, as demonstrated by a one-tailed Z-test.

Despite limited awareness of subliminal advertising among consumers, research by Hejase, Hamdar, Farha, Boudiab, and Beyruti (2013) found a positive relationship between consumer brand attitudes and exposure to subliminal ads. On the other hand, Andrea Scarpa (2013) examined the effectiveness of subliminal priming using visual stimuli through mobile devices, finding minimal effects on consumer decision-making. The results of this experiment revealed no significant behavioral changes among participants. Strahan, Spencer, and Zanna (2002) explored how subliminal priming affects behavior related to goal-driven cognition. Their study showed that when the prime aligns with the subject's current goal, subliminal messages can indeed influence behavior. However, this study was limited to convenience products, suggesting that the effects of subliminal advertising might vary for different types of consumer goods like specialty items or shopping products.

The subconscious activation of trust as a goal directs primed individuals toward a more favorable judgment of the message, influencing them to agree with the presented content. Jean-Baptiste Legal, Julien Chappe, Viviane Coiffard, and Audrey Villard-Forest (2011) explored the effect of goal priming on the way consumers process persuasive messages. Their findings revealed that trust priming had a positive influence on the subjects' reactions to the messages. Strahan, Spencer, and Zanna (2002) suggested that subliminal priming might motivate individuals, especially in situations where basic needs are unmet. Their study aimed to evaluate the impact of subliminal conditioning on consumers in the absence of such needs. They tested 82 participants and found that subliminal priming had no significant effect when basic needs were not present. However, Veltkamp, Custers, and Aarts (2010) discussed how subliminal priming could create basic needs within individuals, thus motivating them even in conditions of need deprivation. Their research indicated that subliminal cues could spark the development of basic needs in consumers, but awareness of these cues could prevent unconscious buying, without affecting brand preferences.

In an experimental study conducted by Thijs Verwijmeren, Johan C. Karreman, Stefan F. Bernritter, Wolfgang Stroebe, and Daniel H. J. Wigboldus (2011), it was found that informing individuals about the presence of subliminal messages diminished the effect of those messages. The study involved 173 students and showed that consumers could only be protected from subliminal influence if they were made aware of the priming. Christina Bermeitinger, Ruben Goelz, and Nadine John (2008) explored how subliminal messages impacted consumer behavior. In a study with 64 participants from Saarland University, they

demonstrated that primed subliminal messages significantly altered participants' attitudes towards a product. Subliminal messages are generally classified into two categories: visual and auditory (Lucia Wang, 2017). Malihe Ilkhani (2009) studied the effect of auditory subliminal stimuli on higher cognitive behaviors in 62 undergraduate female students. Her results showed that those exposed to positive subliminal audio were less anxious than those who were presented with negative subliminal audio. This suggests that auditory subliminal messages can be a powerful tool for influencing consumer behavior. Thijs Verwijmeren (2014) conducted another study investigating the process and feasibility of subliminal advertisements. He found that when consumers did not have a habitual brand preference, they were more likely to choose the primed brand. Additionally, when the primed brand competed with a habitual brand, the priming effect increased preference for the primed brand. This study confirms that subliminal priming can influence brand preference and consumer perception.

Veltkamp, Aarts, and Custers (2007) explored the effect of subliminal priming in situations where deprivation was not present. Their study concluded that specific motivational goals, rather than deprivation, play a key role in determining the effectiveness of subliminal advertising. Accessible goal-related cognitions influence consumers' behaviors.

According to Chris Lorsch (2012), once consumers are informed about being exposed to subliminal priming, its effect diminishes. His study highlighted the importance of consumer awareness in mitigating the influence of subliminal advertising. In a separate study by Kenneth G. DeMarree, Chris Loesch, Richard E. & Rucker (2012) at Ohio State University, it was found that when consumers were primed with doubt, the usual effects of subliminal priming on their behavior were weakened. The study revealed that doubt has an inverse relationship with the effectiveness of subliminal advertising. Although some researchers, such as Greenwald et al. (1996), have suggested that the effects of subliminal advertising may be short-lived, Simon Ruch, Marc Alain Zu, and Katharina Henke (2016) demonstrated that subliminal messages can exert long-term effects on decision-making. Using a two-tailed t-test, their experiment found that subliminal influences could have enduring impacts on consumer choices. Jacobsen Zubizarreta (2012) examined how the frequency of subliminal message exposure affects consumer preference. The study revealed that repeated subliminal priming has a stronger impact on preference changes, suggesting that reiteration is crucial for subliminal advertising effectiveness. Tara Santora (2020) further emphasized this, stating that reiteration is an important factor for successful subliminal messaging. Rosanne Weber (2010) also investigated the relationship between subliminal stimuli and brand choice, finding that

subliminal cues can influence brand selection in two key ways: directly affecting customer choice and enhancing brand equity, which, in turn, influences purchase decisions. This indicates that consumer attitudes significantly mediate their purchasing intentions.

Vickie Hedgren and Angelica Persson (2015) studied Swedish consumers' perceptions of subliminal advertising. Their research, involving 200 randomly selected participants, found that Swedish consumers displayed a surprisingly high level of ethical acceptance toward subliminal marketing. In the current age of fragmented information and distracted minds, subconscious priming has proven to be an effective means of communication with consumers (Anisha Nair, Nakul Dutt, and Saloni Arora, 2016). Lucia Wang (2017) also highlighted the significance of subliminal messaging in fostering effective communication with target audiences, indicating that subliminal techniques should not be overlooked in modern marketing strategies. Soomro and Yasir Ali (2018) conducted a study aimed at examining consumer and marketer perceptions, awareness, knowledge, attitudes, and behaviors concerning subliminal advertising. The research found that marketers' knowledge of subliminal messaging had a significant positive effect on their attitudes toward such ads (Steven Slowman & Philip Fernbach, 2017). However, no support was found for the hypotheses concerning consumers. Overall, the results indicated a statistically significant difference in how marketing professionals and non-marketing professionals viewed and interpreted subliminal messages embedded in advertisements. A more recent study by Liwei Hsu and Yen-Jung Chen (2020) investigated the impact of subliminal messages on consumer preferences. In their experiment, hotel videos featuring a smiling emoticon as a subliminal cue were shown to 16 participants across two rounds. The results demonstrated that subliminal stimuli significantly influenced participants' selection of hotels, indicating a direct, positive effect on consumer decision-making. Moreover, neuroscientific data from the study revealed significant differences in brain activity, with theta and beta waves indicating the impact of these subliminal cues. Another important study, conducted by Lloyd H. Silverman, April Martin, and Eric Mendelson (1978), explored whether subliminal messages could promote weight loss in obese women. The study found that the group exposed to subliminal messages lost more weight than the control group that was not exposed. This suggests that subliminal messages could be used for self-help purposes, including weight loss (Rhuthshana Sivashanker, 2020).

Christina Bermeitinger, Ryben Goelz, John Manfred, Ullrich K.H. Ecker, and Robert Doerr (2009) also examined the role of motivation in subliminal advertising. Their study revealed that subliminal messaging works when there is an existing intention or need related to the

product being primed. They used a similar approach to that of Karreman et al. (2006), embedding subliminal stimuli in a brand logo presented through a computer game. The study showed that participants consumed more of the subliminally primed brand, but only if they were fatigued. This aligns with Karreman's findings that subliminal stimuli influence subjects only when they are relevant to their current needs. Brenda Ocampo (2015) extended previous research on subliminal stimuli, exploring their impact on consumer behavior. Ocampo's study focused on the effect of masked stimuli on motor responses, revealing that these stimuli can influence free-choice behavior even when not explicitly targeted. The study supported the idea that subliminal priming, particularly visual stimuli, can trigger unconscious biases, influencing decisions without participants' awareness (Lucia Wang, 2017). In a study by Ruixue Xia, Honghong Shao, Lili Cui, Peiying Zhang, Junwei Xue, Aibao Zhuo, and Shifeng Li (2021), researchers explored whether self-positivity bias occurs in the absence of explicit self-related cues. Participants, who had been subliminally primed, evaluated a series of positive and negative traits. The results indicated that individuals responded more quickly to positive traits, demonstrating a self-positivity bias. Additionally, the electroencephalogram (EEG) readings showed significant interaction between name-cue and trait valence, suggesting that subliminal self-cues could trigger a self-positivity bias, further confirming the strength of this bias in influencing consumer behavior (Abdul Aziz et al., 2018).

In contrast to earlier research, Lukas Roesler, Astrid Schutz, Pia A. Blank, Marieluisa Duck, Sabine Fels, Jana Kupfer, Linda Scheelje, and Christian Seida (2021) provided evidence suggesting that subliminal advertising does not effectively influence consumer behavior. While previous studies have highlighted the effectiveness of subliminal anchoring as a decision-making tool (Christophe Morin, 2011), this study contradicted those findings. The researchers employed high-powered direct replications based on a standard recipe (Brandt et al., 2014), and their results revealed no evidence of subliminal anchoring in either of the two replications. Another investigation by Sarah Jessen and Tobias Grossmann (2021) examined the link between brain processing and subliminal facial cues. Their findings indicated that adults can absorb significant information from another person's face without conscious awareness (i.e., subliminally). By exploring the connection between subliminal face processing and brain responses, the researchers showed that this type of processing begins in early childhood, playing a foundational role in human interaction, perception, and communication. Subliminal face processing triggers frontal brain responses related to attention allocation, underscoring its importance in communication. S.A. Osimo, L. Piretti, S.

Lonta, R.I. Rumaiaiti, and M. Aiello (2020) sought to explore whether an attentional bias could exist before individuals consciously recognized stimuli. Using a task that involved the Continuous Flash Suppression technique, along with a Go/No-Go task for inhibition testing, the study involved 53 participants. The results indicated that participants with a higher body mass index (BMI) exhibited slower subliminal processing of both food and non-food stimuli. Moreover, the higher the threshold of awareness, the lower the grey matter density in key brain areas related to awareness (Liwei Hsu & Yen-Jung Chen, 2019). These findings suggest that while subliminal stimuli can impact various consumer traits, other factors may neutralize their overall effect.

Micah Amd and Denise Aparecida Passarelli (2020) explored the influence of subliminal conditioning on consumer preferences, specifically regarding unfamiliar drink brands. The study aimed to test whether subliminal stimuli could shift brand preferences (Elgendi et al., 2018). The results of Bayesian analysis revealed that while subliminal cues were likely to shift preferences, they did not significantly influence brand evaluations, indicating that while subliminal stimuli can impact consumer preferences, they do not necessarily alter evaluations. In a series of five experiments, Armstrong, Anna-Marie Dienes, and Zoltan (2013) investigated the role of subliminal negation processing. Their study explored whether participants could identify a correct noun from a pair even when one noun was negatively subliminally primed. The results showed that subjects could correctly identify the noun despite negative subliminal priming. This suggests that subliminal priming works only when consumers remain unaware of the stimuli (Lucia Wang, 2017). Sand, Anders Nilsson, Mats E. (2017) argued that Bayesian analysis is the most authentic method for assessing the effectiveness of subliminal advertising. The researchers criticized conventional analysis techniques for erroneously supporting subliminal priming. By simulating samples based on the assumption that only those who consciously perceive a prime can be influenced by it, they found that traditional methods inaccurately supported the priming effect. Bayesian analysis, however, proved to be more reliable in revealing the true effects (Sofi et al., 2018). Raheny, Dobromir, A. Huang, Elliott, Lau Hakwan (2012) examined the effects of visual subliminal stimuli on cognitive control functions. The study found that subliminal stimuli presented both in cued and non-cued spatial locations influenced consumer behavior, reinforcing the idea that subliminal priming can affect decision-making even without participants' awareness (S Ruch, 2016). In a study by Cestaro and Victor L. Polygraph, the researchers investigated the electrodermal responses to subliminal stimuli. The experiment involved 30 male students in a treatment and control group, with backward masking used to

hide the true stimulus for the treatment group. The findings showed that subjects in both groups responded more frequently to target stimuli associated with a shock, suggesting that subliminal visual stimuli can elicit differential autonomic nervous system responses (S Vukusic et al., 2017).

Cai, Jie, Zhang, Jingyu, Sun, Xianghong (2018) explored the impact of subliminal stimuli on interpersonal trust. They found that positive subliminal stimuli (trust) significantly increased interpersonal trust compared to negative stimuli (suspicion). The researchers also discovered that personal perception, rather than situational perception, mediated the effect of subliminal priming on trust (Bowman et al., 2006). This highlights the influence of subliminal priming on social dynamics. However, Elizabeth F. Loftus (1992) debunked the effectiveness of subliminal advertising, asserting that Vicary's famous experiment was a hoax. Loftus's study concluded that subliminal advertising does not influence consumer behavior (Erin Hardin, 2019). Song, Juan, Wei, Yanqiu, Han, Ke (2019) explored the impact of subliminal emotions (sadness, fear, and neutrality) conveyed through the eye region on empathy for pain. Their findings showed that the sad eye stimulus elicited a larger amplitude response in the participants than the fear eye stimulus. Furthermore, the sad eye stimulus increased empathy for pain, demonstrating that subliminal emotional cues can influence the viewer's empathy and perceptual responses. In their study, Pratte, Michael S., and Rouder, Jeffrey N. (2009) worked to address challenges in prime-classification tasks by varying the duration of subliminal stimuli. Their results showed no significant effect of priming on consumer behavior, supporting the idea that subliminal priming may have limited impact under certain conditions (Erin Hardin, 2019). Milyavsky, Maxim, Hassin, Ran R., Schul & Yaacov (2012) examined whether implicit motivation enhances the effectiveness of subliminal stimuli on consumer choice. Their findings confirmed that motivation plays a crucial role in subliminal persuasion. Motivated consumers showed a stronger response to subliminal stimuli compared to those who were not motivated (Sofi et al., 2018).

Andreas Riener (2017) critiqued the claim that subliminal messages are ineffective, highlighting the subjective nature of their impact. His study found that subliminal messages work, but their effectiveness varies depending on the person and the circumstances. The research emphasized the importance of motivation and the relevance of need-related cognition for subliminal stimuli to have an effect (Karremans, J.C. Stroebe, Claus, 2006). Lastly, A. Ilse, S.E. Donohue, M.A. Schoenfeld, J.M. Hopf, H.J. Heinze & J.A. Harris (2020) demonstrated that consumer behavior change is more linked to needs rather than subliminal stimuli. In their experiment, they showed unseen food images to participants in both craving

and non-craving states. The results indicated that the participants' behavior was influenced by their hunger, not by the subliminal stimuli, suggesting that need-based states are crucial for subliminal influence (Nick Kolenda, 2015). A similar study by Jamie Lynne Wilfong (2002) examined the effects of subliminal messages in print media on feelings, attitudes, judgments, and purchase intentions. The results revealed that while subliminal cues did affect consumers' feelings, they had no significant impact on attitudes or purchase intentions (Cecilia Cynder, 2021).

2.9 Impact of Subliminal Advertisements on Consumer Behaviour:

A considerable amount of research has been conducted on the influence of sexual cues as subliminal stimuli in advertising. Hawley & Patricia Marie (2004) explored how hidden sexual cues in advertisements affect female consumers' purchase intentions, particularly in the fashion and beauty sector. The study involved 110 female students who were shown 16 different print ads, each containing both a sexual and a non-sexual advertisement for the same product. The results revealed that explicit sexual cues tended to negatively impact the purchase intentions of women, with those under 25 years old being more susceptible to these cues than older women. Similarly, Karlijn Massar & Abraham P Buunk (2009) discussed how sexual subliminal cues' effectiveness is influenced by the subject's sex drive. They suggested that these cues act as triggers to enhance sex drive in less sexually driven men (Marsha Appel, 2017). The higher the sex drive, the stronger the effect of subliminal cues, while in less sexually motivated consumers, these cues serve to increase their sex drive, thus affecting their attitudes toward the product. In another study, Tommaso Dall Acqua, Chiara Begliomini, Raffaella Motta, Diego Miotto & Umberto Castiello (2018) sought to examine the differences in neural activity between intentional choices and unconscious decision-making triggered by subliminal cues. Using functional magnetic resonance imaging (fMRI), the researchers manipulated the degree of freedom participants had in making a choice, exposing them to subliminal cues. The findings indicated that, when participants had the freedom to make decisions, the brain's choice network was more activated compared to when unconscious choices were made (Lisa Wade, 2012). In contrast, Franziska Giller et al. (2020) found that subliminally primed information could negatively affect an individual's ability to resolve conflicts, but this effect was only present when the information related to the subject's goal-related cognition (Timothy E Moore, 1982). Without such cognition, subliminal cues had no significant impact on decision-making or conflict resolution.

Yeseul Choi, Kyoungmin Lee, Minhee Seo, and Jeh-Kwang Ryu (2019) investigated whether subliminal stimulation could activate both audio and visual sensory channels. The study explored how subliminal stimuli influence the way sensory events are combined in perception. The results revealed that subliminal cues, even when presented subconsciously, activated both audio and visual sensory responses, further emphasizing the multifaceted nature of subliminal stimuli. This was a new addition to the field, showing that subconscious stimuli activate sensory windows in a way that non-subliminal stimuli do not. Tian-Tian Li & Yong Lu (2014) examined the effects of subliminal affective priming on arousal levels, focusing on facial expressions with varying degrees of emotional intensity. Their study showed that subliminally primed faces affected individuals' arousal levels, and that valence played a key role in this influence. Faces that induced higher levels of arousal elicited stronger neural responses during late-stage processing. These findings suggest that the emotional impact of subliminal stimuli can vary based on the level of arousal they evoke (M Kim, 2021). Another important investigation was conducted by Stefan Van Der, Stigchel, Manon Mulckhuysen, and Jan Theeuwes (2009), who sought to understand whether subliminal visual information could influence eye movement metrics such as saccade trajectories. Their findings confirmed that subliminal cues could alter participants' eye movements, supporting the notion that subliminal stimuli affect perception and decision-making (S Khalid, 2017). However, they noted that the effect was more pronounced with supraliminal stimuli than with subliminal ones.

Gaelle M. Bustin, Jordi Quoidbach, Michel Hansen, and Remi L. Capa (2012) studied how personality traits could influence responses to subliminal stimuli. The researchers examined individuals with high and low novelty-seeking traits, asking them to perform tasks for varying rewards after being exposed to subliminal or supraliminal cues. The results showed that low novelty-seeking individuals performed better when exposed to subliminal cues, while high novelty-seeking individuals showed no difference in performance, regardless of the type of stimulus (Dan Shewan, 2017). Georgio Chaloulos, Eva Cruck, and John L. Ygeros (2010) explored the concept of subliminal control in automated systems, specifically in air traffic control. The study aimed to determine whether subliminal control could reduce an air traffic controller's workload by making small, imperceptible adjustments to flight speeds. The results indicated that subliminal control could indeed reduce workload in many cases, suggesting potential applications for subliminal influence in high-stakes environments. Tilanka Chandrasekera, Ngoc Vo Newton, and D'Souza (2013) focused on the impact of subliminal suggestions on sudden moments of inspiration (SMI) during architectural design.

Their study found that one designer, exposed to subliminal stimuli, demonstrated more significant instances of SMI compared to the other designer who was not exposed. This supports the idea that subliminal stimuli can influence creative processes and decision-making in specialized fields (L Hsu, 2020).

Numerous studies have explored the impact of subliminal stimuli, particularly sexual cues, on consumer behavior. One such study by Hawley & Patricia Marie (2004) investigated how hidden sexual cues in advertisements influence female consumers' purchase intentions, focusing on fashion and beauty products. A survey of 110 female students was conducted where they were shown 16 print advertisements, each containing one sexual and one non-sexual image for the same product. The results revealed that explicit sexual cues led to a decrease in purchase intentions, with younger women (under 25 years old) being more susceptible than older women. Karlijn Massar & Abraham P Buunk (2009) further examined how sexual subliminal cues influenced consumer behavior based on the individual's sex drive. They found that these cues heightened the sexual drive in individuals with low sex drive, which in turn influenced their attitudes toward the product. In another study, Tommaso Dall Acqua et al. (2018) used functional magnetic resonance imaging (fMRI) to examine how consumers make intentional decisions compared to those influenced by subliminal cues. The findings indicated that when individuals had free choice, the brain's decision-making network was more activated compared to unconscious choices, highlighting a difference in neural processing between conscious and unconscious decisions (Lisa Wade, 2012). Franziska Giller et al. (2020) also studied how subliminal priming affected conflict resolution abilities in consumers, finding that the effect was present only when the information primed was related to goal-oriented cognition (Timothy E Moore, 1982). Without such cognition, subliminal cues did not influence decision-making processes.

Further research by Yeseul Choi, Kyoungmin Lee, Minhee Seo, and Jeh-Kwang Ryu (2019) focused on whether subliminal cues could activate both audio and visual sensory windows. They found that subliminal cues triggered sensory responses even when participants were unaware of the stimuli, offering new insights into how subliminal stimuli interact with human sensory processing. Tian-Tian Li & Yong Luin (2014) explored the effects of subliminal affective priming using faces with varying levels of emotional arousal. The study demonstrated that subliminal priming with high-arousal faces led to stronger neural responses, and that valence played a key role in this arousal effect. These results suggest that emotional stimuli presented subliminally can alter an individual's mental and emotional states (M Kim, 2021). Stefan Van Der, Stigchel, Manon Mulckhuyse, and Jan Theeuwes (2009)

also examined the impact of subliminal visual cues on eye movement. Their study revealed that subliminal cues altered the eye movement of participants, reinforcing the idea that subliminal stimuli affect human perception and decision-making (S Khalid, 2017). However, the effect was less pronounced than with conscious (supraliminal) cues. Gaelle M. Bustin, Jordi Quoidbach, Michel Hansen, and Remi L. Capa (2012) studied the role of personality traits in the effectiveness of subliminal cues. Their research indicated that individuals with low novelty-seeking tendencies performed better when exposed to subliminal cues, while high novelty-seeking individuals showed similar performance regardless of the type of cue (Dan Shewan, 2017).

Research by Georgio Chaloulos, Eva Cruck, and John L. Ygeros (2010) examined subliminal control in the context of air traffic control. The study showed that subliminal control could reduce the workload of air traffic controllers, demonstrating potential applications of subliminal influence in high-stakes environments. Tilanka Chandrasekera, Ngoc Vo Newton, and D'Souza (2013) investigated the role of subliminal stimuli in creative processes, specifically focusing on sudden moments of inspiration (SMI) in architectural design. The study found that subliminal suggestions could influence designers' creative breakthroughs, supporting the idea that subliminal stimuli can impact decision-making in specialized fields (L Hsu, 2020). The research collectively suggests that subliminal cues, whether related to sexual stimuli, emotional triggers, or personality traits, can significantly influence consumer behavior, even without the consumer's conscious awareness. The effectiveness of these cues is influenced by factors such as individual characteristics, emotional states, and the context in which the stimuli are presented.

2.10 Subliminal Ethics:

Subliminal advertising has long been a controversial topic, with researchers presenting varying views on its effectiveness and ethical implications (Sofi et al., 2018). Additionally, the ethical concerns surrounding subliminal advertising have sparked ongoing debate (Salpeter et al., 2012). A considerable body of research has aimed to address whether subliminal advertising can be practiced ethically without negatively influencing consumers. Gratz (1984) argued that subliminal advertising is inherently unethical, as it manipulates consumer behavior without their knowledge or consent. Any practice that seeks to alter an individual's actions without their permission contradicts ethical principles. While Gratz's study, conducted over three decades ago, is insightful, it must be considered in the context of

the evolution of subliminal practices, which have changed significantly since then. Therefore, drawing definitive conclusions based on Gratz's findings may no longer be entirely appropriate. In a more recent study, Flores et al. (2014) explored consumer perceptions regarding the ethics of subliminal advertising by both for-profit and non-profit organizations. The findings revealed that consumers generally view subliminal marketing by profit-driven organizations as unethical. However, they were more accepting of subliminal advertising practices when conducted by non-profit entities, considering such tactics to be ethical. Dunlop et al. (2015) also examined the ethical dilemmas surrounding subliminal advertising. They emphasized that marketers must be cautious about the subliminal stimuli they use, as some stimuli may merely encourage consumers, while others are more manipulative. Stimuli that genuinely motivate consumers to make informed choices are acceptable, but many subliminal cues today serve to deceive or manipulate rather than assist. The lack of relevance between these subliminal cues and the advertised product raises serious concerns, which can only be addressed by making consumers more aware of these manipulative practices.

According to Mujtaba et al. (2015), the best way to protect consumers from the potentially harmful effects of subliminal advertising is to increase public awareness of its existence. Many people remain unaware that such psychological techniques are used in advertising (K. Takahashi, 2008). In a qualitative survey involving 65 participants, the study found that consumers were overwhelmingly opposed to subliminal manipulation. The study concluded that, because subliminal stimuli target the subconscious mind, being consciously aware of their presence can prevent such manipulation (S. Ruch, 2016). Further studies by Haseeb Shabbir & Des Thwaites (2007) supported the view that subliminal advertising is contrary to both consumer interests and marketing ethics. Their research indicated that a significant percentage (73.5%) of advertisements contained deceptive messages, with 74.5% of those employing subliminal masking techniques, such as humor, to obscure their deceptive nature. The primary purpose of advertising should be to promote products transparently and motivate consumers, not to manipulate them into making decisions against their best interests (Y.A. Soomro, 2018). Subliminal masking, therefore, constitutes an unethical manipulation of consumer behavior, and such practices need to be regulated more strictly (Samantha R Debes, 2021).

Bodo B. Schelegelmich & Magdalena Oberseder (2010) conducted a comprehensive review of marketing ethics and the role of subliminal advertising within this framework. They examined the hidden use of subliminal cues in advertisements and the corresponding regulatory measures. Based on their findings, they developed a model to monitor and control

subliminal manipulation in marketing, offering a practical approach to safeguarding ethical marketing practices. Kiran, Vasanth, Kishore, and Krishn (2013) critically analyzed the ethical and unethical aspects of subliminal advertising. The study examined a series of advertisements that incorporated subliminal stimuli, aiming to uncover the hidden messages behind these primes. The authors concluded that such advertising practices are unethical and emphasized the urgent need for consumer education to raise awareness of these manipulative tactics in marketing. Kelly and J. Steven (1979) suggested that marketers who use subliminal techniques in ads are either unaware of their potential negative effects on consumers or simply indifferent. Regardless, the result is the same: consumers are the victims. Hidden stimuli designed to manipulate consumers go against the principles of ethical advertising (R Karam et al., 2017). The study also identified various instances where subliminal embeds in ads presented significant challenges to advertising ethics (Katie Streszewski, 2018). Thus, raising consumer awareness and implementing stringent actions against those who engage in such unethical practices is essential (Yingzi Xu, 2020).

Another investigation by Charvat and Mary (2011) delved into the ethical concerns related to subliminal advertising, specifically its impact on children's television and films. The study explored the effects of subliminal primes, which are embedded in children's media, and their potential impact on young audiences' subconscious. While there was no conclusive evidence of direct behavioral changes, the study identified potential psychological effects such as lower self-esteem, body image issues, and obesity (Bill Bradley, 2015). The study highlighted the need for consumer awareness and the importance of shielding children from the possible adverse effects of these hidden messages (Luke Scott, 2020). A controversy involving Disney, where the brand was accused of embedding sexual subliminal messages in its films, was analyzed in the study titled "Disney and its conservative critics: Images versus realities" (1996). Authors Ostman and Ronald E discussed the unfounded accusations against Disney for including subliminal sexual cues in their animated films. The study argued that such claims were unfounded, asserting that the so-called "sexual embeds" were merely products of subjective interpretations. People perceive shapes and symbols in different ways, so these accusations were dismissed as unreasonable (Rachel Allen, 2020). O'Brien and John Francis (1985) further examined how subliminal advertising is perceived differently by individuals. Through a qualitative survey, they asked consumers whether they were comfortable with subliminal advertising. The results showed that more than half of the participants expressed discomfort with the idea of being manipulated, while a small portion remained indifferent (Nico Lang, 2013). Packard (1985) also emphasized that subliminal

advertising can indeed influence consumer behavior, but whether or not it works depends on the nature of the embedded information. If the information is relevant to the product and not intended to manipulate consumers negatively, people are more accepting. However, when the intent is to deceive, consumers tend to react negatively.

Laura R. Salpeter and Jennifer I. Swirsky (2012) explored the legal ramifications of using subliminal techniques in advertising. Although the effectiveness of subliminal advertising is still debated, the practice itself is considered unethical. Their study focused on advertisements containing suggestive subliminal messages and underscored the need for marketers to refrain from using such techniques to avoid legal consequences. According to the Federal Trade Commission (FTC), advertisers must ensure that their messages are truthful, and those who violate these guidelines by embedding hidden messages may face penalties. Alonso Villaran (2017) analyzed four major criticisms of deceptive and subliminal advertisements. These criticisms included virtue ethics, which opposes practices that undermine human virtue; utilitarian criticism, which condemns advertising that harms collective happiness; autonomist criticism, which objects to ads that violate the autonomy of the audience; and Kantian criticism, which opposes ads that treat consumers merely as a means to an end. Subliminal advertising falls into all these categories and is therefore considered unethical. Villaran advocates for taking legal action against such practices and emphasizes the importance of consumer awareness (Meral Elci et al., 2015).

Harmon, Amy, and Welkos, Robert W. (1997) explored the use of subliminal cues in films to bypass the conscious mind of viewers. One renowned director, William Friedkin, admitted to inserting subliminal cues into his film "The Murder Mystery." Critics denounced the practice, arguing that it violated the interests of the audience (Dariusz Prokopowicz, 2019). Similarly, Chuck Klosterman (2014) stressed the importance of raising consumer awareness regarding the use of subliminal advertising. He discussed the powerful role the subconscious plays in decision-making (S. Ruch, 2016), and the ethical concerns surrounding hidden messages in advertisements. He highlighted the government's stance on the matter, stating that ethical advertising should clearly distinguish a product from its competitors, while unethical ads deliberately obfuscate that distinction to confuse consumers (G. Sen, 2007).

2.11 Research Gap:

The study of subliminal advertising and its influence on consumer buying behavior has garnered significant academic interest. However, despite its extensive exploration in various

global contexts, there remains a notable gap in research specifically focusing on Gujarat, India, and its unique consumer market. Much of the existing literature on subliminal advertising has predominantly concentrated on Western cultures, with limited attention given to Indian consumer behavior, particularly in regional contexts such as Gujarat. Previous studies have either explored the theoretical underpinnings of subliminal advertising or its generalized effects without addressing its real-time impact on consumer purchasing decisions within specific geographical and cultural settings (Chaudhary & Gupta, 2021; Sharma & Singh, 2020). Additionally, while the ethical implications of subliminal advertising have been widely discussed in the literature (Kiran & Kishore, 2013; Broyles, 2006), empirical studies examining how ethical concerns resonate with consumers in Gujarat remain scarce. Cultural differences in the perception of advertising ethics could alter the way subliminal messages are understood, leading to different consumer responses compared to studies conducted in Western nations (King et al., 2010). Furthermore, there is a lack of research exploring how subliminal influences manifest in advertising platforms prevalent in Gujarat, such as local television advertisements, regional digital marketing campaigns, and street-level marketing incorporating cultural symbols or indigenous language (Sharma & Singh, 2020).

Moreover, although many studies have focused on the general impact of subliminal cues on consumer emotions and attitudes, there is limited investigation into the specific buying behaviors induced by such advertising. This research gap is particularly relevant in the context of Gujarat, where regional and cultural factors significantly influence consumer behavior. For instance, the effects of subliminal advertising on product categories, such as traditional versus modern goods, or in specific industries like local retail or tourism, have not been adequately explored. Additionally, while some studies have analyzed the effects of subliminal advertising on children (Charvat & Mary, 2011), the influence of such advertising on adults in different demographic groups—including gender, age, and socio-economic status—remains under-researched in Gujarat.

Finally, while much of the existing research on subliminal advertising has emphasized the effectiveness of visual cues, less attention has been given to the auditory or multisensory aspects of subliminal messaging. In a culturally diverse region like Gujarat, the potential impact of audio-visual cues or local music in subliminal advertisements presents a promising avenue for deeper exploration (Elci & Sert, 2015). This study aims to bridge these gaps by examining the specific effects of subliminal advertising on consumer behavior in Gujarat, while considering the region's unique cultural, social, and economic context.

Table 2.1: Summary of Literature Review

Sr. No	Author(s) & Year	Title of the Study	Objectives / Focus	Methodology	Major Findings
1	James Vicary (1957)	Subliminal Advertising Experiment	To examine whether subliminal messages influence consumer purchasing behavior	Experimental Research	Claimed that subliminal messages increased consumer interest in products such as popcorn and soft drinks, initiating debate on subconscious advertising effects.
2	Charles Trappey (1996)	A Meta-Analysis of Consumer Choice and Subliminal Advertising	To evaluate the effectiveness of subliminal advertising on consumer attitudes and behavior	Meta-Analysis	Found that subliminal advertising has measurable but limited effects on consumer attitudes, recall, and behavior under controlled conditions.
3	Johan Karremans et al. (2006)	Beyond Vicary's Fantasies: The Impact of Subliminal Priming	To study the influence of subliminal priming on brand choice	Experimental Study	Concluded that subliminal cues can influence brand preferences when consumers already possess related needs or motivations.
4	Daniel Kahneman (2011)	Thinking, Fast and Slow	To explain subconscious and automatic decision-making processes	Conceptual/Theoretical Study	Proposed dual-process theory explaining how subconscious thinking influences judgments and consumer decisions.

5	David Aaker (1996)	Building Strong Brands	To examine emotional branding and brand equity	Conceptual Study	Highlighted the importance of emotional association and subconscious perception in shaping brand loyalty and consumer behavior.
6	Philip Kotler & Kevin Lane Keller (2016)	Marketing Management	To explain consumer behavior and advertising effectiveness	Conceptual & Applied Marketing Framework	Emphasized that consumer behavior is influenced by psychological, emotional, and socio-economic factors.
7	Leon Schiffman & Joseph Wisnblit (2019)	Consumer Behaviour	To analyze cognitive, emotional, and behavioral aspects of consumers	Consumer Behaviour Framework	Explained that consumer decisions are affected by perception, motivation, emotions, and subconscious influences.
8	Dennis Rook (1987)	The Buying Impulse	To study compulsive and impulsive buying behavior	Behavioral Research	Identified emotional triggers and environmental stimuli as major causes of impulse buying behavior.
9	Richard Petty & John Cacioppo (1986)	Elaboration Likelihood Model	To explain persuasion and attitude formation	Theoretical Model	Demonstrated that involvement and attention significantly affect persuasion and advertising effectiveness.
10	John Bargh (1994)	Automaticity and Priming in Consumer Behaviour	To study subconscious processing and automatic responses	Experimental Psychology	Found that subconscious stimuli influence perception, attitudes, and behavioral responses automatically.
11	Icek Ajzen (1991)	Theory of Planned Behaviour	To explain behavioral intention and	Theoretical Framework	Concluded that attitudes and perceptions strongly predict consumer purchase intention

			decision-making		and behavior.
12	George Belch & Michael Belch (2021)	Advertising and Promotion	To examine integrated marketing communication and advertising effectiveness	Marketing Communication Framework	Highlighted that creative and persuasive advertising improves consumer engagement and brand effectiveness.

CHAPTER 3

RESEARCH

METHODOLOGY

Chapter 3 Research Methodology

Overview

This chapter presents the research methodology adopted for the study, including the research design, data collection methods, sampling techniques, sample size, and research instrument. It also discusses the reliability and validity of the constructs, statistical tools used for data analysis, and the limitations of the study.

3.1 Problem Statement

Advertising plays a pivotal role in shaping consumer perceptions and influencing purchasing decisions, yet traditional overt marketing strategies are increasingly challenged by media saturation and consumer exposure to numerous stimuli. In response, marketers have explored subtler approaches such as subliminal advertising, which presents stimuli below the threshold of conscious awareness to influence attitudes, emotions, and behaviour without the consumer's explicit recognition. Despite decades of research on subliminal perception in Western contexts, the effectiveness, mechanisms, and ethical implications of such advertising in India, particularly at the regional level, remain underexplored.

Gujarat, with its diverse consumer landscape encompassing urban sophistication and rural traditionalism, presents a unique context to examine the impact of subliminal advertising. Urban centres like Ahmedabad, Surat, and Vadodara exhibit high media penetration, brand awareness, and competitive marketing exposure, whereas rural areas reflect distinct socio-cultural norms and consumption patterns. Existing research in Gujarat has primarily focused on conscious decision-making processes, consumer attitudes, and brand preferences, leaving the influence of unconscious or subliminal cues on consumer buying behaviour largely unexplored. Furthermore, the interaction between subliminal advertising and regional socio-economic, cultural, and motivational factors is not well understood, limiting both theoretical insights and practical guidance for marketers.

Given the growing sophistication of digital marketing, personalized advertising, and interactive media platforms, understanding how subliminal stimuli affect consumer choices is crucial for designing effective marketing strategies, promoting ethical practices, and informing regulatory frameworks. This study, therefore, seeks to investigate the effect of subliminal advertising on consumer buying behaviour in Gujarat, aiming to bridge the gap between international research, Indian consumer contexts, and regional variations, thereby contributing to knowledge in marketing psychology and responsible advertising practice.

3.2 Conceptual Framework:

3.2.1 Cognition and Subliminal Advertising:

Cognitive neuroscience and its practical applications have revolutionized marketing. With advancements in neuroscientific techniques, marketing has redirected its focus towards understanding key factors such as which brain areas to stimulate to turn a consumer's purchase intention into a decision, how information is processed during decision-making, and how personality traits affect buying decisions. Neuroscience has provided groundbreaking insights into the consumer brain. For years, scientists have studied the role of subliminal messages in marketing, leading to significant controversy. Research shows that making decisions based on intuition rather than conscious reasoning is more common than previously thought. Studies indicate that successful intuitive decision-making depends on the association of subliminal messages with limbic brain structures.

The relationship between subliminal stimulation and cognitive functions has been explored through various experiments. Kolars (1957) conducted two studies, and Gerard (1960) used a problem-solving task where rows of geometric figures were presented via a tachistoscope. Kolars concluded that subliminal stimuli presentations increased the frequency of correct answers in both studies. Gerard assessed participants' ability to mentally reconstruct a composite geometric figure into different assemblies. One group saw the correct solution, another saw an incorrect solution, and a control group saw no subliminal solution. Beyond content reinforcement, Moore (1982) examined the impact of individual cognitive style differences on learning from subliminal media treatments. Early research on subliminal perception primarily considered differences in sex, race, and IQ among participants. Unrecognized differences in sample populations might explain why replication attempts often failed to confirm original findings and why results were sometimes contradictory. McConnell et al. (1958) stressed that individual differences must be accounted for by anyone working with individuals, noting probable variations in the perception of subliminal stimuli across different classes, ages, and sexes. Further studies by Allison (1963), Murch (1965), and Sackeim, Packer, and Gur (1977) demonstrated that individual differences, such as thought strategies, cognitive set, and hemisphericity, were related to susceptibility to subliminal stimulation. DeChenne (1975) and Skinner (1969) did not collect data on individual differences in learning styles or abilities within their samples, which could have hindered the

detection of treatment effects, as indicated by the slight increase in treatment effectiveness in their studies. The term "individual differences" is also linked to the concept of cognitive styles.

3.2.2 Feelings/Affection and Subliminal Advertising:

Feelings and affection are central to subliminal advertising, where the subtle manipulation of emotions can significantly influence consumer behavior (Ahmed, 2017; Song, 2020). This type of advertising involves using stimuli that affect the subconscious mind, often without the consumer's conscious awareness. By leveraging emotional connections, marketers can create lasting impressions, thereby increasing the effectiveness of their campaigns (Atrees, 2013; Bloch, 2018). Emotions are crucial to human decision-making, and advertisers exploit this by embedding subliminal messages that evoke happiness, nostalgia, love, or even fear. These messages are crafted to bypass rational thought and appeal directly to the emotional centers of the brain, fostering a deeper, more instinctive response to the advertised product or service. One common method of subliminal advertising is through visual cues (Wang, 2020). These can include images or symbols briefly flashed within a video, too quickly for the conscious mind to register but still processed by the subconscious. For instance, a commercial might briefly show an image of a happy family or a serene landscape, invoking feelings of joy and tranquility that the viewer associates with the product (Maslowska, 2017; Winzar, 2018). This subtle association can make the product more appealing, as consumers are inclined to seek out items they subconsciously link with positive emotions. Similarly, auditory subliminals involve playing sounds or spoken words at frequencies below the threshold of conscious perception. These can include soothing music, affirmations, or brand names, aiming to create a favorable emotional response that the consumer cannot explicitly identify but feels drawn to nonetheless (Elci, 2015; Nikabadi, 2015; Ramya, 2016; Rook, 1995). The effectiveness of subliminal advertising is closely tied to its ability to tap into deep-seated emotional needs and desires. For instance, feelings of affection and love are powerful motivators that can drive purchasing decisions. Advertisements that subtly evoke the warmth of familial love or the excitement of romantic affection can create a strong emotional bond between the consumer and the product (Raheem, 2014). A perfume ad might include fleeting images of a loving couple, suggesting that the fragrance will enhance one's attractiveness and romantic appeal. This implicit promise of fulfilling emotional desires can compel consumers to choose one product over another, even if they are not consciously aware of the subliminal cues influencing their decision (Foroughi, 2014; Hadjali, 2012). Nostalgia is another potent

emotion leveraged in subliminal advertising. By invoking fond memories of the past, advertisers can create a sense of comfort and familiarity with their products (Han, 1991). This is often achieved through subtle references to cultural icons, music, or imagery from previous decades. For example, a soft drink commercial might feature background music from the 1980s, evoking a sense of nostalgia that resonates with consumers who grew up during that era (Miao, 2013). This emotional connection can make the product feel more relatable and trustworthy, thereby increasing its appeal. Subliminal nostalgia taps into the consumer's longing for the past, subtly suggesting that the product can bring back the joy and simplicity of earlier times (Shen, 2012).

Fear and anxiety are also emotions that subliminal advertising can exploit, though this is often more controversial (Myres & Kwon, 2013; Sharif, 2017). By subtly invoking feelings of fear, advertisers can create a sense of urgency and necessity around their products. For example, a home security company might use quick, almost imperceptible images of burglaries or natural disasters to evoke a sense of danger and vulnerability. This can prompt consumers to purchase security systems out of a subconscious desire for safety and protection (Verplanken & Herabadi, 2001).

3.2.3 Advertisement evaluation and Subliminal Advertising:

Subliminal advertising embeds hidden messages or stimuli below the threshold of conscious perception, aiming to influence consumer behavior without their explicit awareness (Auday et al., 2013; Begg et al., 2010). This technique raises significant ethical, effectiveness, and consumer autonomy concerns (Cheesman et al., 1984 & 2011). Evaluating these advertisements is essential for several reasons: assessing their effectiveness, understanding psychological impacts, ensuring ethical standards, and guiding regulatory practices (Druckman & Bjork, 2011 & 2014; Greenwald, 1991; Heath, 2012). Marketers and researchers conduct these evaluations using methodologies such as controlled experiments, consumer surveys, and neuroscientific studies to measure the impact of subliminal stimuli (Key, 2010; Merikle, 2014; Merikle & Skanes, 2014; Starker, 2010). Past studies have used techniques like eye-tracking, brain imaging, and reaction time tests to determine if consumers respond to subliminal cues. By evaluating these responses, advertisers can gauge the actual influence of subliminal messages on purchasing decisions and brand perceptions (Rosen, 2008; Synodinos, 2011; Vokey & Read, 2011). If evaluations show a significant impact, marketers may integrate these subtle techniques into their broader strategies. Conversely, if there is minimal or no effect, it challenges the efficacy and rationale behind investing in

subliminal advertising methods (Moore, 1992, 2011 & 2012; Packard, 1957; Pratkanis & Greenwald, 2011).

Moreover, evaluating advertisements helps understand the psychological effects of subliminal messages on consumers. Since these messages operate below conscious awareness, they can potentially affect the subconscious mind (Ayrapetova, 2020; Bargh & Pietromonaco, 1982). Evaluations can reveal the extent to which these messages influence emotions, attitudes, and behaviors without consumers' explicit consent or realization. Psychological assessments often focus on implicit memory, unconscious biases, and automatic behavioral responses (Benoit & Thomas, 1992; Bornstein et al., 1987). This understanding helps determine if such advertising practices could have long-term psychological implications, such as altering self-perception or reinforcing stereotypes (Froufe & Schwartz, 2001; Greenwald, 1991; Karremans, Stroebe & Claus, J., 2006). The ethical implications of subliminal advertising are profound, making advertisement evaluation indispensable. Ethical concerns center on the manipulation of consumer choice and potential deception. Subliminal advertising raises questions about autonomy and informed consent, as consumers are influenced without conscious awareness (Krosnik, 1992; Libert, 1964; Merikle & Skanes, 1992). Evaluations scrutinize these ethical dimensions by examining whether subliminal messages respect or violate ethical standards in marketing and developing frameworks to safeguard against manipulative practices (Smyth, 2014; Strahan, 2002; Theus, 1994).

Additionally, evaluating advertisements is crucial for guiding regulatory practices related to subliminal advertising. Evaluations provide empirical evidence and insights that regulators use to establish rules governing subliminal techniques. If evaluations indicate significant detrimental effects on consumer behavior, regulators might impose stricter controls or bans on such practices. Conversely, if the impact is limited, regulations might focus on ensuring transparency and ethical disclosures rather than prohibitive measures. Through these evaluations, regulators can balance the interests of advertisers and consumers, promoting fair and transparent marketing practices. Advertisement evaluation also contributes to a broader understanding of consumer psychology and marketing effectiveness (Aarts, 2000; Zanut, 1983). By studying the impacts of subliminal advertising, researchers gain insights into how consumers process information and make decisions, informing the broader field of marketing and advertising (Wells, 2014; Wojdyski & Golan, 2016).

3.2.4 Advertisement effect and Subliminal Advertising:

Advertising plays a pivotal role in shaping consumer behavior by influencing their perceptions, attitudes, and purchasing choices. Extensive research indicates that advertising significantly boosts brand awareness and knowledge. Broyles (2006) highlighted that effective advertising enhances consumer awareness and detailed product knowledge. Similarly, Cooper & Cooper (2002) noted that informative advertising aids consumers in making informed decisions by providing essential information about product features and benefits. Emotional appeals in advertising foster strong brand attitudes; Delbaere, Mcquarrie, & Phillips (2013) found that ads evoking positive emotions can enhance consumers' attitudes toward the brand. Additionally, Edelheim (2007) demonstrated that repeated exposure to advertisements can increase brand preference through the mere exposure effect. Behavioral impacts are also noteworthy; Heath (2012) established a clear link between advertising exposure and heightened purchase intentions, and Jaworska (2017) illustrated that persuasive advertising can lead to actual purchases, particularly when consumers have high involvement with the product category. Persuasion models, such as the Elaboration Likelihood Model, explain how advertisements persuade consumers through central and peripheral routes, while repetition improves brand recall and recognition, contributing to long-term memory retention (Karremans, Stroebe, & Claus, 2006).

3.2.5 Advertisement involvement and Subliminal Advertising:

Subliminal advertising works by embedding messages or stimuli below the threshold of conscious perception, using methods like flashing images, embedding sounds, or incorporating hidden cues in visual or auditory content. The main objective is to tap into the consumer's subconscious mind, thereby influencing their attitudes, preferences, and decisions in subtle, often unnoticed ways (Bratu, 2010; Broyles, 2006; Espley et al., 1999). Advertisement involvement in this context includes designing and implementing subliminal messages, understanding the psychological mechanisms at play, addressing ethical considerations, and considering the implications for consumer autonomy and regulatory oversight (Hanzaee, 2011; Heath, 2012; Kelly, 1979). Central to advertisement involvement in subliminal advertising is the intricate process of designing and embedding subliminal messages, which requires a deep understanding of human perception and cognition. Advertisers must create messages that bypass conscious scrutiny while still being processed subconsciously. This could involve rapid image sequences, subtle audio alterations, or hidden visual cues seamlessly integrated into the advertisement (Kiran & Kishore, 2013; Nelson, 2006; Reichert, 2002). The challenge is to make the content imperceptible to the conscious

mind yet effective in conveying the desired subliminal message. Advanced technology and psychological insights are often employed to fine-tune these messages, ensuring they are positioned optimally to influence subconscious processing. The use of subliminal techniques raises ethical concerns about manipulating consumer choice and potential deception (Wiklik, 2000). Unlike traditional advertising, which allows consumers to consciously evaluate and critique the message, subliminal advertising bypasses this critical engagement, potentially leading to unethical influence (Bamberger, 2013). Advertisers must navigate these ethical waters carefully, balancing the desire to influence consumer behavior with the responsibility to act transparently and fairly. This involves adhering to ethical guidelines and standards that protect consumers from manipulative practices and ensuring that subliminal techniques respect consumer autonomy (Aminard, 2013; Csorba, 2011; De Pretto, 2015). Consumer autonomy, the ability to make informed and independent choices, is another critical dimension influenced by subliminal advertising (Hussin, 2013; Iftekhhar, 2013). By its nature, subliminal advertising can undermine this autonomy by influencing decisions without the consumer's conscious awareness (Kirdar, 2012). Advertisers must consider the implications of their subliminal campaigns on consumer autonomy and strive to design advertisements that, while persuasive, do not unduly manipulate or deceive consumers (Klimov, 2003).

Additionally, advertisement involvement in subliminal advertising extends to broader marketing strategy and brand perception implications (Launiala, 2009; Manderson, 1992). Effective subliminal advertising can enhance brand recognition and loyalty by creating positive subconscious associations (Masud, 2015; Messaris, 2013). For example, if a subliminal message evokes trust or happiness when consumers think about a brand, it can increase brand preference and repeat purchases (Smarandescu & Shimp, 2015). Advertisers must consider how subliminal messages fit into their overall marketing strategy and align with their brand values and objectives (Sofi & Nika, 2013). The goal is to create a cohesive and compelling brand narrative that resonates with consumers both consciously and subconsciously (Ramsoy & Overgaard, 2004).

3.2.6 Buying tendency and Subliminal Advertising:

Impulse buying tendencies and subliminal advertising intersect in a fascinating and complex manner, offering valuable insights into consumer behavior and marketing strategies (Tunali, 2013). Impulse buying refers to unplanned, spontaneous purchases often driven by strong emotional responses or sudden urges. Subliminal advertising, on the other hand, uses stimuli below the threshold of conscious perception to subtly and covertly influence consumer

behavior. When combined, these phenomena can significantly impact consumer interaction with products and brands, often leading to an increase in unplanned purchases (Verwijmeren, 2011; Tramp, 2011).

The influence of impulse buying tendencies in the context of subliminal advertising starts with consumers' psychological predispositions. Individuals with a high impulse buying tendency are more susceptible to spontaneous purchases driven by emotional triggers and situational factors (Prete Giulia et al., 2015). This makes them prime targets for subliminal advertising, which aims to tap into the subconscious mind to evoke specific emotions and reactions (Adaval, 2001; Caccavale, 1982). Subliminal messages bypass the rational, conscious mind and directly influence the emotional and instinctual parts of the brain (Cuperfain, 1985). For consumers prone to impulse buying, these messages are particularly effective as they are more inclined to respond to emotional and subconscious cues (Dick & Basu, 1994). These subliminal cues can act as powerful triggers for impulse buyers, who often rely on emotional responses rather than deliberate decision-making processes (Fedorikhin, 2004). The synergy between impulse buying tendencies and subliminal advertising is further amplified by the contexts in which consumers encounter advertisements (Brown, 1992). Retail environments, online shopping platforms, and multimedia channels are designed to stimulate impulse purchases through strategic placement and timing of advertisements. Subliminal messages can enhance this effect by subtly influencing consumers at moments when they are most susceptible to impulsive behavior (Delbaere, 2013). Impulse buying is often driven by a desire for instant gratification, closely linked to the emotional appeal of subliminal messages (West, 2022). Subliminal advertising can exploit this desire by suggesting immediate rewards or benefits associated with a product. This approach is particularly effective in categories like fashion, food, and entertainment, where consumers seek quick pleasure or enjoyment (Verwijmeren, 2014). By reinforcing these associations subtly, subliminal advertising can prompt unplanned purchases in pursuit of immediate gratification (Theus, 1994).

Additionally, the interplay between impulse buying and subliminal advertising provides valuable insights into broader consumer trends and preferences. Analyzing the effectiveness of subliminal messages on impulse buyers helps marketers understand the emotional and subconscious factors driving consumer behavior (Starker, 2010). This knowledge can inform the development of targeted and personalized advertising strategies tailored to the specific needs and desires of different consumer segments. For example, understanding that a particular demographic is more prone to impulse purchases when exposed to certain

emotional triggers can help marketers craft messages and creative content that better appeal to that audience (Sofi & Nika, 2013; Tunali, 2013).

3.2.7 Subliminal Advertising and consumer emotion in buying behaviour:

The role of subliminal advertising and consumer emotion in purchasing behavior is a complex and significant area of study in marketing and psychology (Cohen, 2006). Consumer emotions, such as joy, fear, excitement, and nostalgia, are powerful drivers of behavior and decision-making (Hawkins, 1970). Advertisers who understand and tap into these emotions can create more compelling and persuasive messages. Subliminal advertising seeks to influence these emotional responses by embedding hidden cues that consumers may not consciously recognize but can still trigger emotional reactions (Kunst-Wilson & Zajonc, 1980; Oliver, 1980, 1983). Subliminal advertising is effective because it bypasses the conscious mind's critical filters and directly engages the subconscious, which processes information continuously, even without active awareness (Rogers & Smith, 1983). By embedding subliminal messages that evoke positive emotions, advertisers can subtly influence consumers' attitudes toward a product without overtly presenting the message. This technique reduces the likelihood of resistance or skepticism that often accompanies overt advertising (Auday et al., 2013; Begg et al., 2010). When consumers are not consciously aware they are being targeted, they are less likely to question the ad's motives and more likely to be influenced by its emotional cues (Hanzaee, 2011).

Subliminal advertising can also target more complex emotional states such as fear, desire, or social approval. For instance, an ad might subliminally present images or sounds that evoke a sense of urgency or fear of missing out (FOMO), prompting impulsive purchases (Reichert, 2002). Similarly, subtle cues suggesting social acceptance or admiration can tap into consumers' desire to fit in or be perceived positively by others (Aarts, 2000; Wells, 2014; Zanot, 1983). By understanding and leveraging these emotional triggers, advertisers can craft messages that resonate on a deeper, more instinctual level, driving purchasing behavior more effectively (Froufe & Schwartz, 2001). However, the ethical implications of using subliminal advertising to influence consumer emotion and behavior are significant. The covert nature of subliminal techniques raises concerns about manipulation and consumer autonomy (Merikle & Skanes, 2014; Starker, 2010). Consumers have the right to make informed decisions based on transparent and honest advertising (Greenwald, 1991; Heath, 2012). Using subliminal messages to manipulate emotions and drive purchases without consumers' conscious awareness can be seen as psychological coercion (Begg et al., 2010). This ethical concern

highlights the need for regulations and guidelines to ensure that subliminal advertising is used responsibly and does not exploit consumers' emotional vulnerabilities (Auday et al., 2013).

The interplay between subliminal advertising and consumer emotion also provides valuable insights into broader consumer behavior trends (Synodinos, 2011; Vokey & Read, 2011). By analyzing how different emotional triggers and subliminal messages affect purchasing decisions, marketers can gain a deeper understanding of the psychological mechanisms driving consumer behavior (Broyles, 2006; Espley et al., 1999). This knowledge can inform the development of more targeted and personalized advertising strategies that cater to the specific emotional needs and desires of different consumer segments (Aminard, 2013; Csorba, 2011). For example, understanding that a particular demographic responds more to messages evoking feelings of security and comfort can help marketers tailor their campaigns to better appeal to that audience (De Pretto, 2015).

3.2.8 Subliminal Advertising and brand preference in buying behaviour:

The role of subliminal advertising in shaping brand preference within consumer buying behavior represents a complex interplay of marketing strategy and consumer psychology (Sofi & Nika, 2013; Tunali, 2013; Verwijmeren, 2014). Subliminal advertising leverages the subconscious mind, which processes information and stimuli outside of conscious awareness (Starker, 2010; Theus, 1994). By embedding subtle cues such as images, sounds, or words in advertisements, marketers aim to evoke specific emotions, associations, or desires that can influence consumers' perceptions of brands. These subliminal messages bypass the conscious mind's critical filters, directly impacting the subconscious, where emotional and instinctual responses are more influential in shaping preferences (Brown, 1992; West, 2022).

One key way subliminal advertising influences brand preferences is through the creation of positive associations (Dick & Basu, 1994). Over time, these positive associations become linked to the brand in consumers' minds, even if they are not consciously aware of the specific stimuli (Prete Giulia et al., 2015). When consumers encounter the brand in a store or online, the subconscious familiarity and positive associations triggered by the subliminal messages can influence their preference for that brand over others (Ramsoy & Overgaard, 2004). This process is rooted in classical conditioning principles, where repeated exposure to paired stimuli (the brand and positive emotions) strengthens the association between them (Klimov, 2003). Additionally, subliminal advertising can enhance brand preference by tapping into consumers' emotional triggers and psychological needs (Kirdar, 2012). Subliminal cues that suggest security, status, or social acceptance resonate deeply with

consumers' desires and aspirations. These subtle messages create a sense of alignment between the brand and consumers' personal values or identity, fostering a stronger emotional connection and preference for the brand (Aminard, 2013; Bamberger, 2013; Csorba, 2011). By strategically aligning subliminal messages with consumers' psychological motivations, marketers can cultivate brand loyalty and encourage repeat purchases.

The effectiveness of subliminal advertising in shaping brand preference is also influenced by the situational context in which consumers encounter these messages (Hanzaee, 2011). Retail environments, online platforms, and multimedia channels are designed to maximize exposure to subliminal stimuli at key moments when consumers are most receptive. For example, a subliminal message embedded in an online advertisement that a consumer sees while browsing social media can be particularly impactful if it aligns with their current mood or interests. By carefully timing and placing these messages, marketers can subtly yet significantly influence brand preference (Bratu, 2010; Heath, 2012). However, the use of subliminal advertising to influence brand preference raises important ethical considerations. The covert nature of subliminal techniques means that consumers may not be fully aware of the influence being exerted on their perceptions and preferences. This lack of transparency challenges principles of consumer autonomy and informed decision-making, as consumers have the right to make choices based on clear and honest information. Subliminal advertising can be seen as manipulating consumer preferences without their explicit consent, raising ethical concerns about fairness and transparency in advertising practices (Begg et al., 2010; Moore, 2012; Stroebe & Claus, 2006).

3.2.9 Subliminal Advertising and purchase intention in buying behaviour:

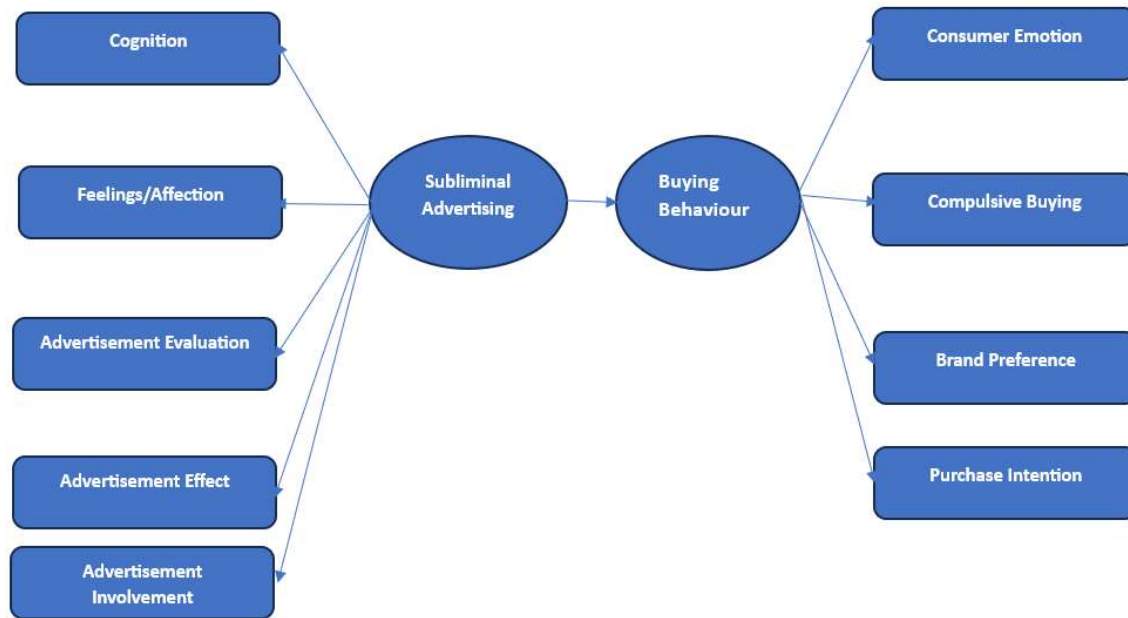
The role of subliminal advertising in influencing buying decisions and overall buying behavior is a multifaceted and compelling area of marketing and psychological research. At the core of subliminal advertising's impact on buying decisions is the way it targets the subconscious mind (Druckman & Bjork, 2011 & 2014; Greenwald, 1991; Heath, 2012). The subconscious is a powerful aspect of human cognition, processing information continuously and influencing behavior without conscious awareness (Rosen, 2008; Synodinos, 2011; Vokey & Read, 2011). By embedding subliminal messages in advertisements, marketers aim to bypass the critical, analytical part of the brain and directly engage the subconscious. These messages can be visual, such as fleeting images or subtle visual cues, or auditory, such as background sounds or music that carry hidden meanings (Packard, 1957; Pratkanis & Greenwald, 2011). The primary objective is to evoke specific emotions or thoughts that align

with the advertised product, thereby influencing consumer preferences and decisions at a deeper level (Merikle & Skanes, 1992; Smyth, 2014; Strahan, 2002; Theus, 1994). One significant way subliminal advertising impacts buying behavior is through the creation of positive associations with a brand or product (Aarts, 2000; Zanot, 1983). This process often involves classical conditioning, where a subliminal stimulus is repeatedly paired with a positive emotional response. Over time, consumers may begin to associate these positive emotions with the product being advertised, even if they are not consciously aware of the specific stimuli. When they encounter the product in a store or online, these positive associations can influence their decision to purchase it, often without a clear understanding of why they feel drawn to it (De Pretto, 2015; Ramsøy & Overgaard, 2004; Trapp, 2011; Verwijmeren, 2014).

The effectiveness of subliminal advertising is often enhanced by the situational context in which consumers encounter these messages. Retail environments, online platforms, and multimedia channels are strategically designed to maximize exposure to subliminal stimuli at moments when consumers are most susceptible to influence (Delbaere, 2013; Starker, 2010; Theus, 1994; West, 2022). For example, a subliminal message embedded in an online advertisement that a consumer sees while browsing social media can be particularly effective if it aligns with their current mood or interests. By carefully timing and placing these messages, marketers can increase the likelihood of influencing buying decisions in a subtle yet impactful way (Brown, 1992; Fedorikhin, 2004; Sofi & Nika, 2013; Tunali, 2013). However, the use of subliminal advertising to influence buying decisions raises significant ethical concerns. The covert nature of subliminal messages means that consumers are not fully aware of the influence being exerted on them, which can be seen as a form of manipulation (Adaval, 2001; Caccavale, 1982; Cuperfain, 1985; Dick & Basu, 1994). This lack of transparency challenges the ethical principles of informed consent and consumer autonomy. Consumers have the right to make purchasing decisions based on clear and honest information, and subliminal advertising can undermine this right by subtly shaping their preferences and actions without their conscious awareness (Klimov, 2003; Masud, 2015; Messaris, 2013; Prete Giulia et al., 2015; Trapp, 2011). This ethical dilemma underscores the need for regulations and guidelines to ensure that subliminal advertising practices are conducted responsibly and do not exploit consumers' psychological vulnerabilities (Bamberger, 2013; Hussin, 2013; Iftekhhar, 2013; Wiklik, 2000).

Based on above discussions following, conceptual framework has been developed for the present study.

Figure 3.1: Conceptual Framework



3.3 Explanation of Model

The conceptual model presented explores the impact of **subliminal advertising** on **consumer buying behaviour**, highlighting both the antecedents of subliminal advertising effects and the specific dimensions of consumer behaviour influenced. The model posits that subliminal advertising functions through cognitive, affective, and evaluative mechanisms, which, in turn, affect purchasing outcomes such as consumer emotion, compulsive buying, brand preference, and purchase intention.

3.3.1 Subliminal Advertising as a Central Construct

At the core of the model, subliminal advertising represents the presentation of stimuli below the threshold of conscious perception, designed to influence consumer attitudes, emotions, and decisions without explicit recognition (Moore, 1982). This form of advertising operates primarily through nonconscious cognitive processes, activating associative networks that shape preferences and evaluations indirectly (Bargh & Chartrand, 1999). The model identifies five antecedent dimensions that influence the effectiveness of subliminal advertising:

1. **Cognition:** Cognitive processing in subliminal advertising refers to the mental recognition and processing of stimuli that occur outside conscious awareness. Even when consumers do not consciously perceive a message, cognitive mechanisms such as priming can enhance the accessibility of related mental constructs, influencing subsequent evaluations and decision-making (Kahneman, 2011; Bargh et al., 1996).
2. **Feelings/Affection:** Emotional responses elicited by subliminal stimuli form an important pathway through which unconscious messages shape consumer behaviour. Positive or negative affect triggered by subliminal cues can bias attitudes toward a brand or product, consistent with affective priming theories (Zajonc, 1980).
3. **Advertisement Evaluation:** This dimension reflects the implicit evaluation of an advertisement, which includes judgments regarding its appeal, relevance, or persuasiveness, even if these evaluations occur below conscious awareness. Subliminal cues can enhance the perceived attractiveness of advertisements and brands by subtly influencing evaluation processes (Kunst-Wilson & Zajonc, 1980).
4. **Advertisement Effect:** The advertisement effect captures the broader impact of subliminal messages on consumer perception, including recall, brand salience, and preference formation. Empirical research suggests that subliminal stimuli can influence judgments and preferences in a measurable, albeit subtle, manner (Trappey, 1996).
5. **Advertisement Involvement:** Involvement refers to the extent to which consumers are engaged with or attentive to the advertisement, even unconsciously. Higher involvement can amplify the effect of subliminal cues on attitude and behaviour, as attentional and motivational factors interact with nonconscious processing (Petty & Cacioppo, 1986).

3.3.2 Buying Behaviour as the Outcome Construct

The model positions **consumer buying behaviour** as the primary outcome influenced by subliminal advertising. This construct is operationalized through four key dimensions:

1. **Consumer Emotion:** Emotional states, both conscious and nonconscious, mediate the relationship between advertising exposure and purchase decisions. Subliminal cues

can evoke emotional responses that predispose consumers toward positive evaluations of a product or brand (Pham, 2004).

2. **Compulsive Buying:** Subliminal advertising may trigger impulsive or compulsive purchase tendencies, particularly when the stimuli activate unconscious desires or reward-related associations. Research in consumer psychology indicates that nonconscious cues can enhance the likelihood of spontaneous purchase decisions (Vohs & Faber, 2007).
3. **Brand Preference:** Exposure to subliminal messages can influence brand choice by reinforcing associative networks in memory and creating positive affective connections. Brands embedded with favorable subliminal cues are more likely to be preferred in decision-making contexts where multiple alternatives are available (Shapiro & Krishnan, 2001).
4. **Purchase Intention:** As an indicator of planned consumer behaviour, purchase intention reflects the likelihood of selecting a product or brand. Subliminal cues can shape intention indirectly by influencing attitudes, emotions, and affective evaluations (Ajzen, 1991).

3.3.3 Mechanisms of Influence

The model assumes that subliminal advertising primarily operates through **System 1 cognitive processing**, as described in Kahneman's dual-system theory. System 1 is fast, automatic, and largely unconscious, making it particularly receptive to subtle cues embedded in advertisements (Kahneman, 2011). The integration of cognitive, affective, and evaluative antecedents reflects the multidimensional pathways through which subliminal stimuli can shape consumer choices without engaging deliberate reasoning. By mapping these antecedents to specific behavioural outcomes, the model highlights the nuanced interplay between unconscious perception and consumer decision-making.

3.4 Justification of Model

The justification for this model is grounded in **psychological theory, consumer behaviour literature, and empirical research**. The study of subliminal advertising necessitates a multidimensional approach that accounts for cognitive, affective, and evaluative mechanisms,

as well as diverse consumer outcomes.

3.4.1 Theoretical Justification

1. **Cognitive and Affective Foundations:** Cognitive psychology literature supports the notion that stimuli below conscious awareness can influence perception, memory, and behaviour. Priming studies indicate that nonconscious exposure to words or images can activate associated mental constructs, shaping attitudes and preferences (Bargh et al., 1996). Likewise, affective neuroscience demonstrates that emotional responses can be elicited without conscious recognition, influencing subsequent decision-making (Zajonc, 1980; Pham, 2004). These theories provide a robust foundation for including cognition and feelings/affection as key antecedents of subliminal advertising effects.
2. **Dual-Process Theories:** The model aligns with dual-system theories of cognition (Kahneman, 2011), wherein System 1 processes govern automatic, nonconscious reactions to stimuli. By emphasizing the unconscious processing of subliminal messages, the model reflects contemporary understandings of consumer decision-making that extend beyond rational, deliberate evaluation (Dholakia et al., 2010).
3. **Consumer Behaviour Models:** Classical decision-making frameworks such as Engel-Kollat-Blackwell (EKB) and Howard-Sheth emphasize sequential and rational evaluation stages (Schiffman & Kanuk, 2010). However, contemporary research recognizes that nonconscious influences, heuristics, and emotional priming significantly affect consumer behaviour. The inclusion of outcomes such as consumer emotion, compulsive buying, brand preference, and purchase intention is consistent with multidimensional constructs of buying behaviour that integrate affective, cognitive, and behavioural components.

3.4.2 Empirical Justification

1. **Effectiveness of Subliminal Advertising:** Laboratory and field studies provide evidence that subliminal stimuli can influence preferences, evaluations, and implicit attitudes (Kunst-Wilson & Zajonc, 1980; Trappey, 1996). Although effects are often small, they are measurable and significant under specific conditions, supporting the inclusion of advertisement evaluation, effect, and involvement as mediating dimensions.

2. **Behavioural Outcomes:** Research has demonstrated that unconscious cues can trigger affective responses that influence brand choice and purchase intention (Shapiro & Krishnan, 2001). Compulsive buying tendencies may also be exacerbated by exposure to subtle cues that activate reward-related neural pathways (Vohs & Faber, 2007). By linking subliminal advertising to these specific behavioural outcomes, the model captures the practical relevance of unconscious influence in consumer markets.

3.4.3 Contextual Justification

1. **Indian and Regional Relevance:** The Indian consumer market, particularly in Gujarat, is characterized by cultural diversity, urban-rural differences, and varying media exposure (Prasad & Dev, 2000; Sharma & Patel, 2018). These factors may moderate the effects of subliminal advertising on cognition, emotion, and behaviour, justifying the development of a model tailored to regional consumer contexts.
2. **Digital Media Amplification:** The proliferation of digital advertising, personalized marketing, and interactive platforms increases the feasibility and potential impact of subliminal cues (Goldstein et al., 2008). The model's integration of psychological antecedents with buying behaviour outcomes acknowledges the contemporary advertising environment where unconscious influence is more pervasive and technologically sophisticated.

3.5 Research Questions

1. How does subliminal advertising affect consumers' buying behavior, cognitive responses, emotional responses, and advertisement evaluation?
2. What is the impact of subliminal advertising on perceived advertisement effectiveness and consumer advertisement involvement?
3. How does consumers' buying behavior influence their emotions, compulsive buying tendencies, brand preference, and purchase intention?

3.6 Research Objectives

1. To examine the effects of subliminal advertising on consumers' buying behavior, cognitive and emotional responses, and advertisement evaluation.
2. To measure the effect of subliminal advertising on perceived advertisement effectiveness and advertisement involvement.

3. To study the relationship between consumers' buying behavior and emotions, compulsive buying, brand preference, and purchase intention.

3.7 Hypothesis of the study

Hypotheses Related to Subliminal Advertising Effects

H1: Subliminal advertising has a significant positive effect on consumers' buying behaviour.

H2: Subliminal advertising has a significant positive effect on consumers' cognitive responses.

H3: Subliminal advertising has a significant positive effect on consumers' feelings/affective responses.

H4: Subliminal advertising has a significant positive effect on consumers' evaluation of advertisements.

H5: Subliminal advertising has a significant positive effect on perceived advertisement effectiveness.

H6: Subliminal advertising has a significant positive effect on consumers' advertisement involvement.

Hypotheses Related to Buying Behaviour Effects

H7: Buying behaviour has a significant positive effect on consumer emotions.

H8: Buying behaviour has a significant positive effect on compulsive buying tendencies.

H9: Buying behaviour has a significant positive effect on brand preference.

H10: Buying behaviour has a significant positive effect on purchase intention.

3.8 Research Methodology

The research methodology refers to a structured plan or framework for carrying out a research study. This section describes the research design, sampling strategy, data sources, instrument development, fieldwork procedures, and analytical approach. It explains the systematic process used to gather, process, and interpret data, ensuring the accuracy, reliability, and validity of the research outcomes.

3.8.1 Research Design

A research design serves as a structured blueprint guiding the entire research process. It outlines the procedures for collecting both primary and secondary data, the selection and use of research instruments, and the methods applied for data analysis. This study examines the impact of subliminal advertising on consumer buying behaviour in Gujarat.

To achieve the research objectives, a combination of descriptive and quantitative research methods has been adopted. Descriptive research aims to provide a comprehensive understanding of consumer behaviour by analyzing relevant variables and patterns in the context of subliminal advertising. The quantitative approach facilitates objective evaluation through the collection of numerical data and application of statistical techniques, including Structural Equation Modeling (SEM), to test the relationships between subliminal advertising and various aspects of consumer behaviour.

This methodological framework ensures a systematic and data-driven investigation of how subliminal advertising influences consumers' cognitive responses, emotional reactions, advertisement evaluation, perceived advertisement effectiveness, advertisement involvement, and overall buying behaviour in the Gujarat market.

3.8.2 Sampling Framework & Design:

According to Luck and Rubin (1987), the sampling process begins with a precise definition of the target population to ensure that the research focuses on the relevant group. Once the population is identified, a sampling frame is constructed to serve as the source from which the sample will be drawn. The next step involves selecting an appropriate sampling method, depending on whether a probability or non-probability approach is most suitable for the study. Determining the sample size is a crucial stage, as it affects the reliability and generalizability of the research findings. Finally, the sample is selected in accordance with the established criteria and methodology. The sampling framework and design employed in this study are detailed in the following section.

3.8.2.1 Population:

The population for this study consists of consumers residing in Gujarat who are exposed to various forms of advertising, including subliminal messages, and are actively involved in purchasing decisions. The target population includes diverse demographic groups across gender, age, education, occupation, income, and marital status, ensuring broad representation of consumer perspectives within the state.

3.8.2.2 Sampling Framework:

The study uses a structured sampling framework to ensure representation of key consumer segments. The framework identifies strata based on:

- **Gender** (male, female)

- **Age groups** (young, middle-aged, older adults)
- **Education levels** (school, graduate, postgraduate, professional)
- **Occupation** (students, working professionals, business, housewives)
- **Income categories** (low, middle, high)
- **Marital status** (married, unmarried)

This framework enables the systematic selection of respondents from each demographic stratum, ensuring diversity and comparability while maintaining relevance to the research objectives.

3.8.2.3 Sample Size:

The sample size for this study was determined using **Cochran's formula for large populations**, which is widely used for survey research:

$$n_0 = \frac{Z^2 \cdot p \cdot (1 - p)}{e^2}$$

Where:

- n_0 = required sample size
- Z = Z-value (confidence level, e.g., 1.96 for 95%)
- p = estimated proportion of the attribute in the population (0.5 used for maximum variability)
- e = margin of error (e.g., 0.03 or 3%)

Substituting the values:

$$n_0 = \frac{(1.96)^2 \cdot 0.5 \cdot (1 - 0.5)}{(0.03)^2} = 1067$$

Since the population of consumers in Gujarat is finite, the sample size was adjusted using the **finite population correction formula**:

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

Where N = estimated population of consumers in Gujarat. After applying the correction and considering field constraints, a final sample size of **1,000 respondents** was determined to

provide reliable and representative data for the study.

3.8.2.4 Sampling method:

The study employs a **non-probability purposive sampling method**, selecting respondents who are exposed to advertisements and actively participate in purchasing decisions. Within this framework, stratification based on key demographic variables (gender, age, occupation, and income) ensures balanced representation of all significant consumer segments in Gujarat. This approach allows the research to capture diverse consumer perceptions while ensuring that the sample is relevant to the objectives of the study.

3.8.3 Data Sources

The study relies on both primary and secondary data to provide a comprehensive analysis of the impact of subliminal advertising on consumer buying behaviour in Gujarat. Primary data was collected directly from consumers using structured questionnaires, which included questions on demographic characteristics, exposure to subliminal advertisements, and consumer buying behaviour. Respondents provided insights on their perceptions, attitudes, and purchase intentions, allowing the study to capture first-hand information on consumer responses. Secondary data was gathered from books, research articles, journals, government reports, industry publications, and credible online sources to provide theoretical and contextual support. The combination of primary and secondary data ensures the accuracy, reliability, and validity of the findings, while also enabling a deeper understanding of consumer behaviour in response to subliminal advertising. Overall, these data sources form a robust foundation for analyzing the influence of subliminal advertising on purchasing patterns across diverse consumer segments in Gujarat.

3.8.4 Instrument Construction

The study adopted **pre-validated scales** from previous research to measure the constructs related to subliminal advertising and consumer buying behaviour. Using established scales ensures the reliability and validity of the instrument and facilitates comparison with prior studies.

Table 3.1: Pre-established Scales Adopted for the Study

Variables	Source	Number of Items
Advertisement Involvement	Maheswaran & Meyers-Levy, 1990	5
Advertisement Evaluation	Xu & Du, 2011	5
Impulse Buying Tendency	Verplanken & Herabadi, 2001	5
Consumer Emotions (CASC)	Kovacic & Podgornik, 2013	5
Buying Decision	Ponggiannan, 2011; Amandeep & Aulia, 2017	4
Brand Preference	Sirgy, Grewal, Mangleburg & Park, 1997	5

Advertisement Involvement was measured using a 5-item scale developed by Maheswaran and Meyers-Levy (1990), capturing the extent of consumer engagement with advertisements. **Advertisement Evaluation** was assessed through a 5-item scale by Xu and Du (2011), which evaluates consumers' perceptions and judgments of advertisement effectiveness. **Impulse Buying Tendency** was measured using a 5-item scale from Verplanken and Herabadi (2001), reflecting spontaneous purchasing behaviour.

Consumer Emotions were measured using a 5-item scale (CASC) by Kovacic and Podgornik (2013) to capture emotional responses elicited by advertising. **Buying Decision** was assessed with a 4-item scale adapted from Ponggiannan (2011) and Amandeep & Aulia (2017), focusing on the consumers' decision-making process. Finally, **Brand Preference** was measured using a 5-item scale by Sirgy, Grewal, Mangleburg, and Park (1997), reflecting loyalty and preference towards brands.

All items were measured on a **5-point Likert scale** ranging from *strongly disagree (1)* to *strongly agree (5)*. The adoption of these pre-established scales provides a robust and reliable framework to capture the complex relationships between subliminal advertising and consumer buying behavior in Gujarat.

3.8.5 Pilot Study

A pilot study was conducted to assess the reliability and internal consistency of the scales

used to measure the constructs in the study on the impact of subliminal advertising on consumer buying behaviour among respondents in Gujarat State. The pilot study involved 30 samples - a small sample of respondents to validate the survey instrument before the main study.

3.8.6 Reliability Statistics

The reliability of the constructs was measured using **Cronbach's Alpha**. Cronbach's Alpha values greater than 0.70 are generally considered acceptable, indicating good internal consistency of the items within each scale. The results are summarized below:

Table 3.2 Reliability analysis

Construct	Scale Items	Cronbach's Alpha	Interpretation
Cognition	Cog1 – Cog5	0.728	Acceptable reliability; indicates the items consistently measure cognitive responses to advertising.
Feelings	Feel1 – Feel4	0.714	Acceptable reliability; items reliably capture emotional responses toward advertising.
Advertisement Evaluation	AdE1 – AdE5	0.852	High reliability; respondents consistently evaluated the advertisements across different dimensions.
Advertisement Effect	AdEffe1 – AdEffe5	0.771	Good reliability; items effectively measure the perceived effect of advertisements on consumer behaviour.
Advertisement Involvement	AdIN1 – AdIN5	0.824	High reliability; indicates respondents were consistently able to report their level of involvement with advertisements.
Consumer Emotion	CE1 – CE5	0.931	Excellent reliability; items robustly measure emotional reactions triggered by advertisements.
Compulsive	CB1 – CB5	0.72	Acceptable reliability; items are consistent

Buying			in assessing compulsive buying tendencies.
Brand Preference	BF1 – BF5	0.912	Excellent reliability; strong internal consistency for brand preference measurement.
Purchase Intention	PI1 – PI4	0.886	High reliability; items reliably capture respondents' intention to purchase.

3.8.7 Analysis Tools

For the present study, a combination of statistical techniques was employed to provide a comprehensive evaluation of emotional intelligence (EI) dimensions, examine their relationships with demographic variables, and assess their influence on academic performance. These analyses ensure both the reliability and interpretability of the study findings.

3.8.7.1 Descriptive Analysis

According to Hair et al. (2006), descriptive statistics involve numerical and graphical methods to summarize, organize, and transform raw data into meaningful information. In this study, descriptive analysis was applied to examine the demographic characteristics of respondents and to provide an overview of the key study variables, offering initial insights into the data distribution and patterns.

3.8.7.2 Inferential Analysis

The inferential analysis techniques used in this research include **Exploratory Factor Analysis (EFA)**, **Independent Samples t-test**, **One-Way ANOVA**, and **Structural Equation Modeling (SEM)**:

- **Exploratory Factor Analysis (EFA):** EFA was employed to identify underlying structures among the emotional intelligence variables by grouping them into meaningful factors. It helps determine whether latent dimensions exist within the data. The null hypothesis assumes that all variables load equally on factors, while the alternative hypothesis suggests unequal loadings, indicating distinct underlying factors.

- **Independent Samples t-test:** This test examines whether EI dimensions differ significantly between two groups, such as male and female students or undergraduate and postgraduate respondents. The null hypothesis assumes no significant differences between groups, while the alternative hypothesis suggests the presence of significant differences.
- **One-Way ANOVA:** One-way ANOVA was applied to compare EI dimensions across more than two groups, such as students from different age ranges or fields of study. The analysis partitions the total variance into within-group and between-group components. The null hypothesis states that no significant differences exist among groups, whereas the alternative hypothesis indicates statistically significant differences.
- **Path Analysis (SEM):** Structural Equation Modeling and path analysis were used to assess the impact of emotional intelligence on academic performance. The null hypothesis asserts that EI dimensions have no significant effect on academic performance, while the alternative hypothesis proposes that EI dimensions significantly influence academic outcomes.

CHAPTER 4

PRIMARY

ANALYSIS OF

RESPONDENTS

Chapter 4: Data Analysis

Overview

This chapter focuses on the analysis and interpretation of data collected from consumers across Gujarat to assess the impact of subliminal advertising on consumer buying behavior. It begins with the presentation of descriptive statistics, including frequency distributions and percentages of various demographic variables, as well as responses related to subliminal advertising, consumer cognition, emotions, advertisement evaluation, brand preference, and purchase intention. To identify the underlying dimensions influencing consumer behavior, Exploratory Factor Analysis (EFA) has been conducted. Further, the study examines the relationships among key variables through appropriate statistical techniques, providing insights into how subliminal advertising influences consumer perceptions, emotional responses, and purchasing decisions.

4.1 Descriptive Statistics:

Table 4.1 Gender Profile of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	580	58.0	58.0	58.0
	Female	420	42.0	42.0	100.0
	Total	1000	100.0	100.0	

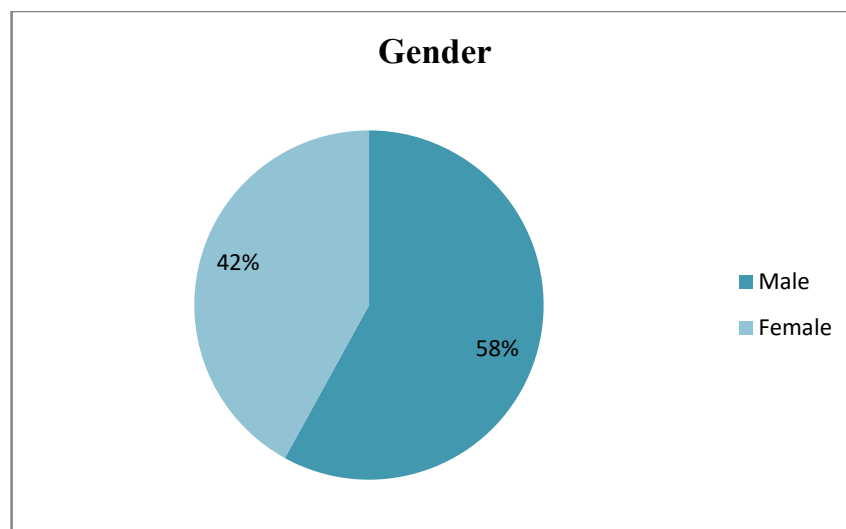


Figure 4.1 Gender Profile of Respondents

The demographic profile of the respondents indicates that, out of the total 1,000 participants in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat, 580 respondents (58.0%) were male, while 420 respondents (42.0%) were female. This distribution suggests that the sample is moderately male-dominated, with males constituting a slightly higher proportion compared to females. The balanced representation of both genders provides scope for meaningful comparison and analysis of subliminal advertising's impact across gender groups, enabling the study to capture diverse consumer perspectives within the state.

Table 4.2 Age Profile of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16 to 25 years	315	31.5	31.5	31.5
	25 to 40 years	292	29.2	29.2	60.7
	41 to 55 years	189	18.9	18.9	79.6
	More than 55 years	204	20.4	20.4	100.0
	Total	1000	100.0	100.0	

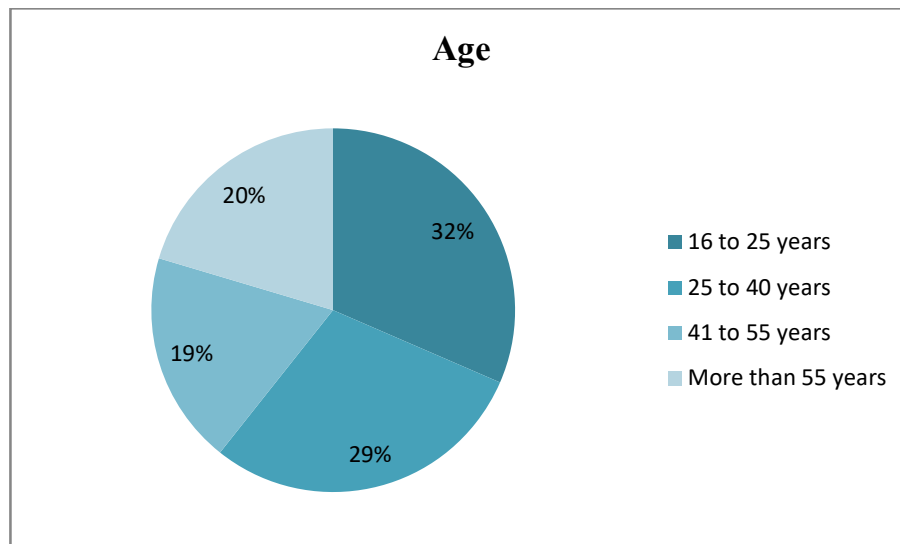


Figure 4.2 Age Profile of Respondents

The age-wise distribution of respondents in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat reveals that the largest proportion of participants (31.5%) belong to the 16–25 years age group, followed closely by 29.2% in the 25–40 years

category. Respondents aged 41–55 years constitute 18.9% of the sample, while those above 55 years account for 20.4%. This spread indicates that the study captures perspectives from a wide range of age groups, with a slightly higher representation from younger and early middle-aged consumers. Such diversity enhances the scope to analyze how subliminal advertising influences consumer behaviour across different life stages in the state.

Table 4.3 Education Level of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to H Sc	230	23.0	23.0	23.0
	Graduate	255	25.5	25.5	48.5
	Postgraduate	257	25.7	25.7	74.2
	Professional Course	227	22.7	22.7	96.9
	Ph D	31	3.1	3.1	100.0
	Total	1000	100.0	100.0	

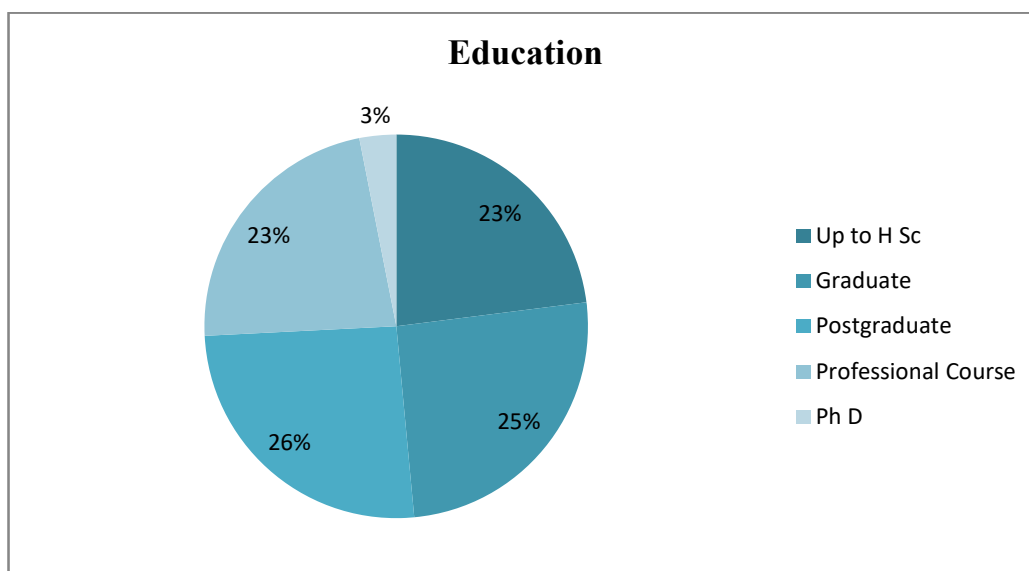


Figure 4.3 Education Level of Respondents

The educational profile of respondents in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat shows a fairly balanced distribution across different qualification levels. Among the 1,000 participants, 23.0% have education up to Higher

Secondary, 25.5% are graduates, and 25.7% hold postgraduate degrees. Additionally, 22.7% have completed professional courses, while a smaller segment of 3.1% possess a Ph.D. qualification. This composition reflects a well-diversified educational background among the respondents, enabling the study to examine how subliminal advertising impacts consumers with varying levels of academic attainment and professional exposure.

Table 4.4 Occupation of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business	100	10.0	10.0	10.0
	Professional	95	9.5	9.5	19.5
	Private Job	102	10.2	10.2	29.7
	Government Job	96	9.6	9.6	39.3
	Housewife	292	29.2	29.2	68.5
	Student	315	31.5	31.5	100.0
	Total	1000	100.0	100.0	

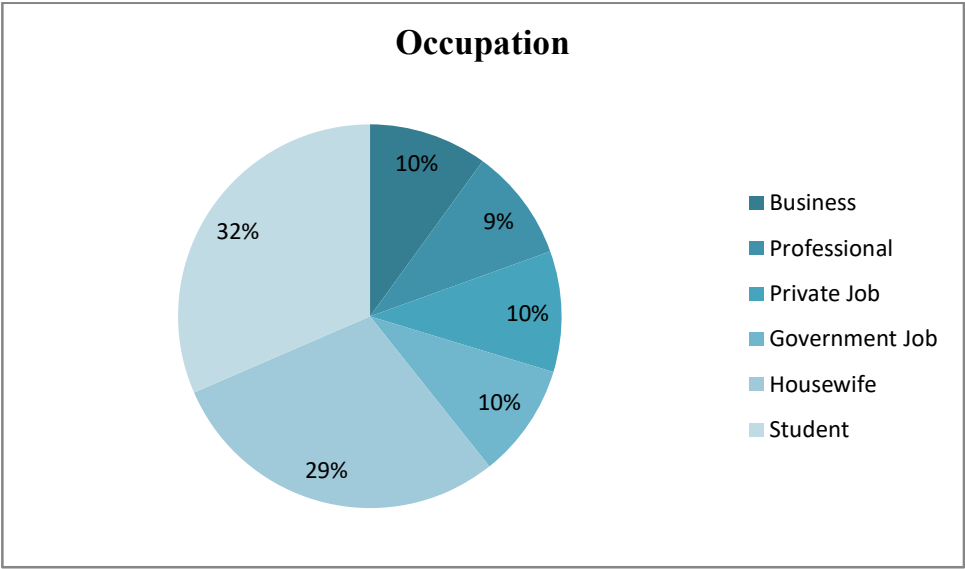


Figure 4.4 Occupations of Respondents

The occupational distribution of respondents in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat reveals that students form the largest

group, constituting 31.5% of the total sample, followed closely by housewives at 29.2%. Respondents engaged in private jobs (10.2%), business (10.0%), government jobs (9.6%), and professional services (9.5%) make up relatively smaller proportions. This mix highlights a diverse representation of occupational categories, with a notable concentration of non-working and young adult segments. Such diversity allows the study to capture insights from both active workforce participants and non-working consumers, enriching the understanding of subliminal advertising’s impact across varied lifestyles and professional backgrounds.

Table 4.5 Monthly Family Incomes (INRs.) of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20,001 to 50,000	331	33.1	33.1	33.1
	50001 to 100000	344	34.4	34.4	67.5
	More than 100000	325	32.5	32.5	100.0
	Total	1000	100.0	100.0	

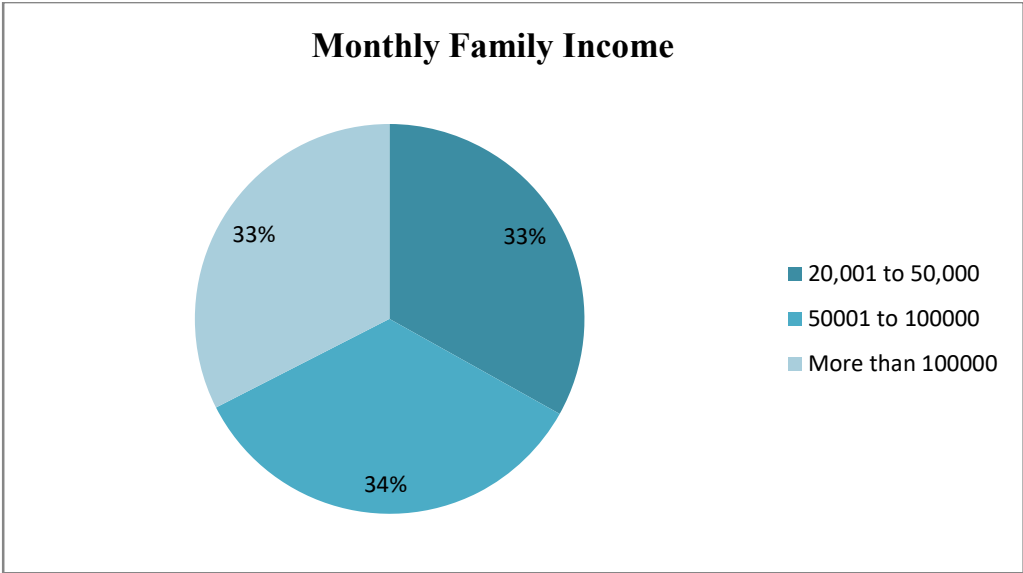


Figure 4.5 Monthly Family Incomes (INRs.) of Respondents

The income profile of respondents in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat indicates a fairly balanced representation across higher income categories. Out of the total 1,000 participants, 33.1% have a monthly family

income between ₹20,001 and ₹50,000, 34.4% fall within the ₹50,001 to ₹1,00,000 range, and 32.5% report earning more than ₹1,00,000 per month. This distribution suggests that the study primarily engages middle- to high-income households, offering valuable insights into the buying behaviour of consumers with considerable purchasing power, a factor that may influence their responsiveness to subliminal advertising.

Table 4.6 Marital Status of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	614	61.4	61.4	61.4
	Unmarried	386	38.6	38.6	100.0
	Total	1000	100.0	100.0	

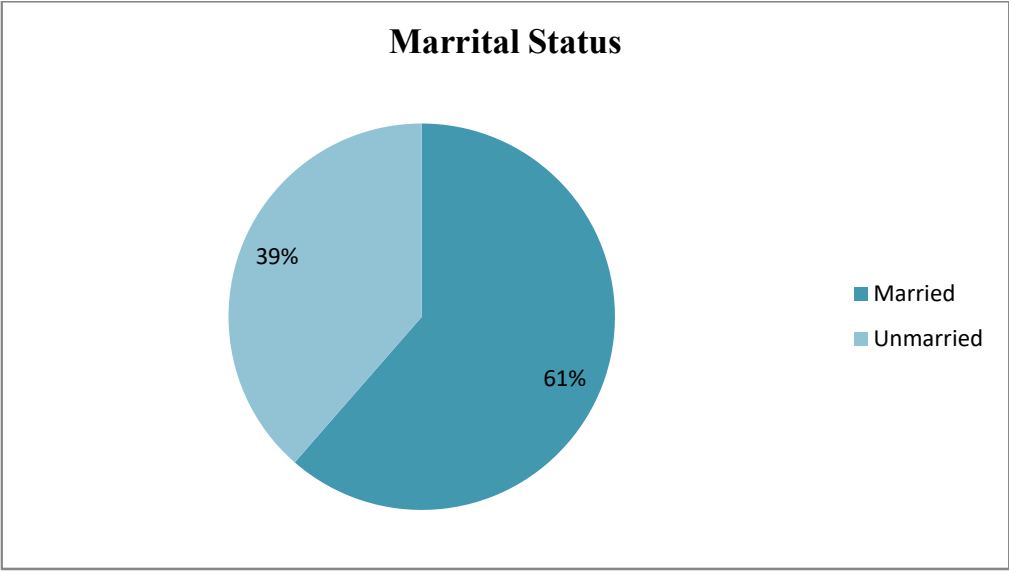


Figure 4.6 Marital Status of Respondents

The marital status profile of respondents in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat shows that a majority, 61.4%, are married, while 38.6% are unmarried. This indicates a higher representation of individuals with family responsibilities in the sample, which could influence purchasing priorities and decision-making patterns. The presence of a substantial proportion of unmarried respondents also allows for comparative analysis of subliminal advertising’s impact across different marital statuses, offering insights into how personal life stage may shape consumer behaviour in the

state.

Cognition:

Table 4.7 Respondents Perception towards Cognition Dimension

Cognition:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Enhances brand recognition even when viewers are unaware of the stimuli	127 (12.7%)	123 (12.3%)	148 (14.8%)	308 (30.8%)	294 (29.4%)
Exposure influences consumer attitudes without conscious awareness	124 (12.4%)	136 (13.6%)	147 (14.7%)	304 (30.4%)	289 (28.9%)
Messages provoke unconscious cognitive processing, affecting decision making	128 (12.8%)	142 (14.2%)	139 (13.9%)	301 (30.1%)	290 (29.0%)
Awareness of subliminal stimuli correlate with increased cognitive vigilance towards advertised products	136 (13.6%)	136 (13.6%)	153 (15.3%)	298 (29.8%)	277 (27.7%)
Perceived credibility of brands is influenced by exposure to subliminal cues in the advertisements	145 (14.5%)	150 (15.0%)	119 (11.9%)	294 (29.4%)	292 (29.2%)

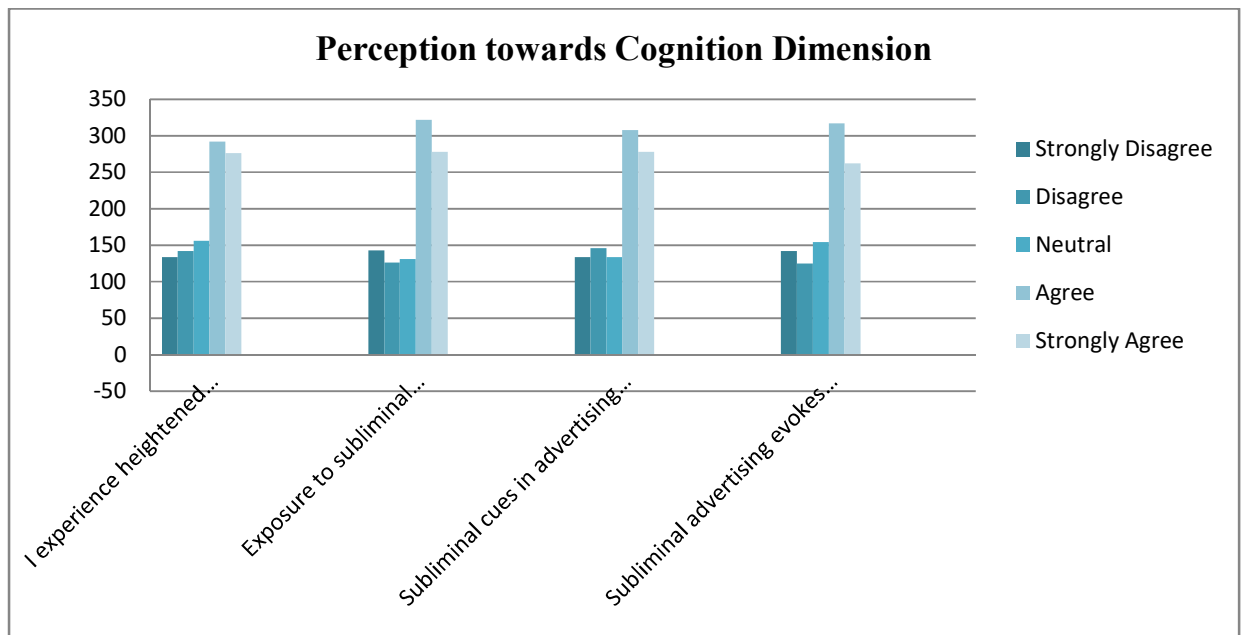


Figure 4.7 Respondents Perception towards Cognition Dimension

The cognitive dimension of the study reveals a generally positive perception of its influence on brand-related thought processes. For the statement “Enhances brand recognition even when viewers are unaware of the stimuli,” 60.2% of respondents agreed or strongly agreed, indicating a strong belief that subliminal cues can improve brand recall without conscious awareness. Similarly, 59.3% agreed or strongly agreed that “Exposure influences consumer attitudes without conscious awareness,” reinforcing the idea that such advertising impacts attitudes at a subconscious level.

In relation to “Messages provoke unconscious cognitive processing, affecting decision making,” 59.1% expressed agreement, highlighting the perceived role of subliminal cues in shaping purchase decisions through subconscious mental activity. Furthermore, 57.5% agreed or strongly agreed that “Awareness of subliminal stimuli correlates with increased cognitive vigilance towards advertised products,” suggesting that even partial recognition of these cues may heighten attention to related brands.

Lastly, 58.6% agreed or strongly agreed that “Perceived credibility of brands is influenced by exposure to subliminal cues in advertisements,” indicating a belief that such stimuli can subtly enhance trust in a brand. Across all five cognition-related items, the proportion of neutral responses ranged between 11.9% and 15.3%, showing that a smaller segment of respondents remains undecided, while the share of disagreement averaged around 13–15%, reflecting a relatively low level of outright scepticism. Overall, the findings suggest that

consumers in Gujarat largely acknowledge the cognitive impact of subliminal advertising on recognition, attitudes, decision-making, attention, and credibility.

Feelings/Affection:

Table 4.8 Respondents Perception towards Feelings/Affection Dimension

Feelings/Affection:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I experience heightened emotional responses when subliminal messages are integrated into advertisements	134 (13.4%)	142 (14.2%)	156 (15.6%)	292 (29.2%)	276 (27.6%)
Exposure to subliminal advertising makes me feel more connected to the advertised brands	143 (14.3%)	126 (12.6%)	131 (13.1%)	322 (32.2%)	278 (27.8%)
Subliminal cues in advertising create a sense of curiosity in me	134 (13.4%)	146 (14.6%)	134 (13.4%)	308 (30.8%)	278 (27.8%)
Subliminal advertising evokes positive emotions towards advertised brands or products	142 (14.2%)	125 (12.5%)	154 (15.4%)	317 (31.7%)	262 (26.2%)

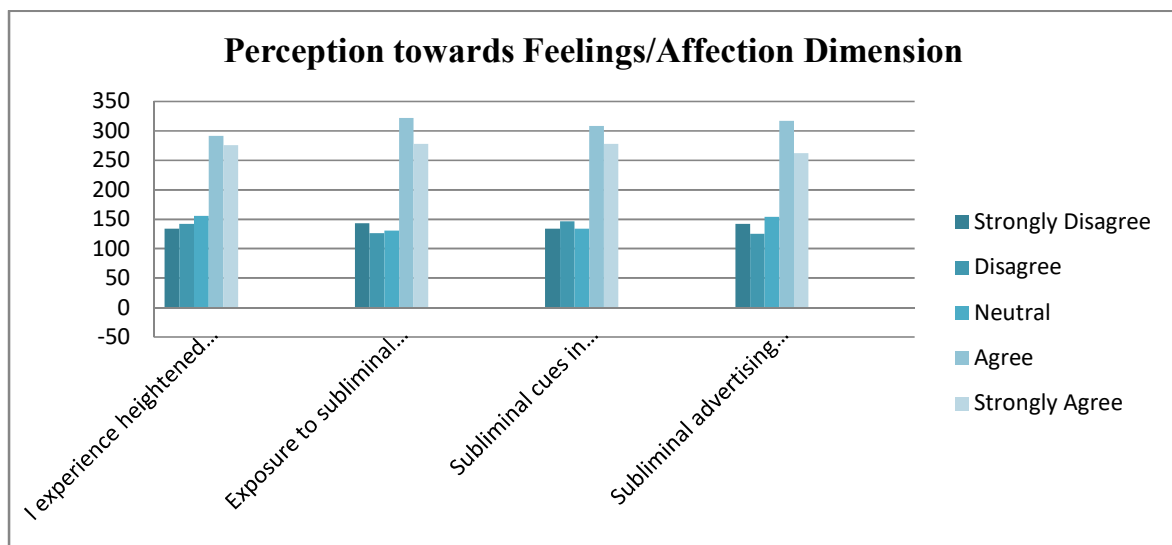


Figure 4.8 Respondents Perception towards Feelings/Affection Dimension

The affective dimension of the study demonstrates that a majority of respondents perceive subliminal cues as capable of influencing their emotional connection with brands. For the statement “I experience heightened emotional responses when subliminal messages are integrated into advertisements,” 56.8% of respondents agreed or strongly agreed, indicating that subliminal elements can trigger notable emotional reactions. Similarly, 60.0% agreed or strongly agreed that “Exposure to subliminal advertising makes me feel more connected to the advertised brands,” reflecting the role of such cues in fostering brand affinity.

Regarding “Subliminal cues in advertising create a sense of curiosity in me,” 58.6% agreed or strongly agreed, suggesting that these messages may stimulate an inquisitive response, potentially encouraging deeper brand engagement. Furthermore, 57.9% of respondents agreed or strongly agreed that “Subliminal advertising evokes positive emotions towards advertised brands or products,” underscoring the perceived emotional uplift linked to these techniques.

Neutral responses across items ranged between 13.1% and 15.6%, indicating a modest segment of participants who remain undecided about subliminal advertising’s emotional effects. Meanwhile, disagreement levels varied between 12.5% and 14.6%, pointing to relatively low resistance to the idea that subliminal cues influence feelings. Overall, the results indicate that subliminal advertising is largely perceived to have a favourable emotional and affective impact on consumers in Gujarat.

Advertisement Evaluation:

Table 4.9 Respondents Perception towards Advertisement Evaluation

Advertisement Evaluation:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My attention is drawn to the unique content of the advertisement	130 (13.0%)	140 (14.0%)	150 (15.0%)	267 (26.7%)	313 (31.3%)
The content of the advertisement tempers my interest	150 (15.0%)	139 (13.9%)	137 (13.7%)	311 (31.1%)	263 (26.3%)
The advertising techniques captivate my interest	153 (15.3%)	128 (12.8%)	142 (14.2%)	280 (28.0%)	297 (29.7%)

I consider purchasing the advertised product	129 (12.9%)	146 (14.6%)	142 (14.2%)	310 (31.0%)	273 (27.3%)
The advertisement is trustworthy	135 (13.5%)	126 (12.6%)	160 (16.0%)	293 (29.3%)	286 (28.6%)

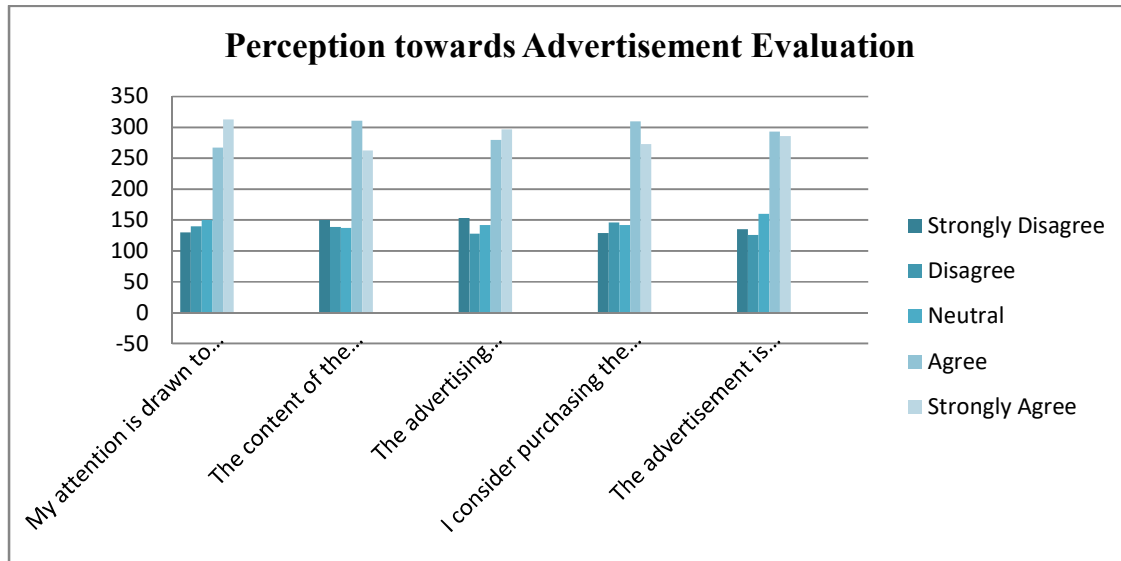


Figure 4.9 Respondents Perception towards Advertisement Evaluation

The advertisement evaluation results from the study reveal a generally favorable perception of advertising content and its persuasive potential. For the statement “My attention is drawn to the unique content of the advertisement,” 58.0% of respondents agreed or strongly agreed, indicating that originality in ad design is effective in capturing audience attention. Similarly, 57.4% agreed or strongly agreed that “The content of the advertisement tempers my interest,” suggesting that the substance of the ad plays a key role in maintaining consumer engagement. In relation to “The advertising techniques captivate my interest,” 57.7% agreed or strongly agreed, underscoring the appeal of creative methods in sustaining interest. Furthermore, 58.3% of respondents expressed agreement or strong agreement with the statement “I consider purchasing the advertised product,” highlighting the direct behavioral

influence of advertising exposure. Trust also emerged as a significant factor, with 57.9% agreeing or strongly agreeing that “The advertisement is trustworthy,” suggesting that credibility remains a crucial determinant of positive consumer response.

Neutral responses ranged between 13.7% and 16.0%, representing a moderate proportion of consumers who remain undecided, while disagreement levels averaged around 13–15%, indicating limited outright rejection of the advertisements' appeal. Overall, these findings suggest that subliminally influenced advertisements are largely perceived as attention-grabbing, interesting, persuasive, and credible, with considerable potential to influence purchase intentions among consumers in Gujarat.

Advertisement Effect:

Table 4.10 Respondents Perception towards Advertisement Effect

Advertisement Effect:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Subliminal advertising improves the effectiveness of traditional advertising methods	148 (14.8%)	122 (12.2%)	130 (13.0%)	310 (31.0%)	290 (29.0%)
Subliminal advertisements have a greater impact on my subconscious perceptions compared to other advertisements	126 (12.6%)	140 (14.0%)	155 (15.5%)	282 (28.2%)	297 (29.7%)
I find subliminal messages in advertisements more attention grabbing than other advertising	150 (15.0%)	149 (14.9%)	135 (13.5%)	295 (29.5%)	271 (27.1%)
I am more likely to remember products or brands advertised subliminally compared to advertised by other methods.	141 (14.1%)	146 (14.6%)	140 (14.0%)	287 (28.7%)	286 (28.6%)
Subliminal advertising affects my purchasing decisions in ways that other advertising does not	143 (14.3%)	154 (15.4%)	141 (14.1%)	287 (28.7%)	275 (27.5%)

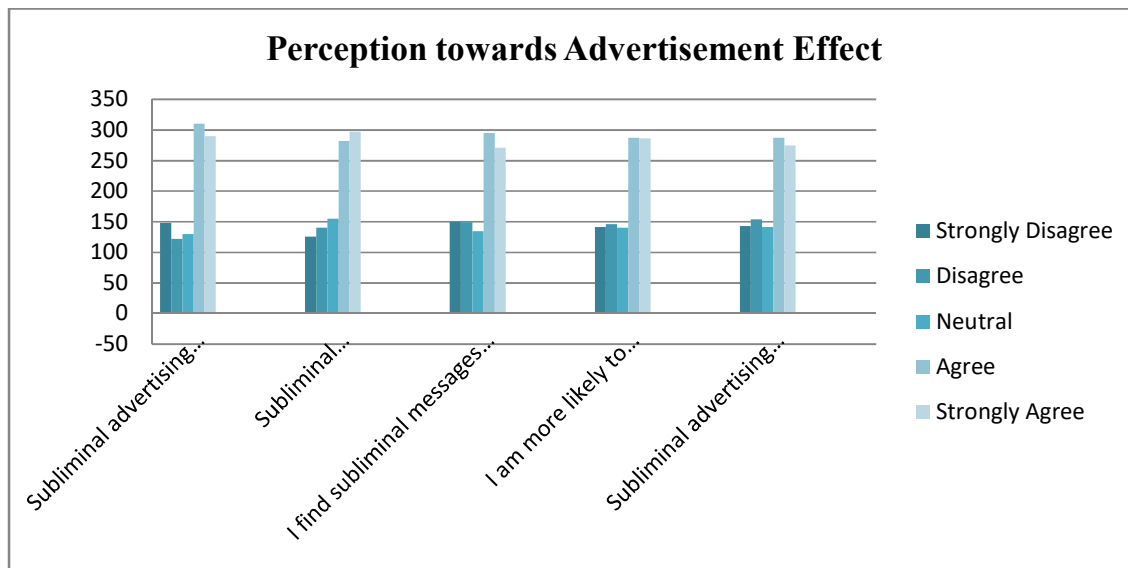


Figure 4.10 Respondents Perception towards Advertisement Effect

The findings on advertisement effect in the present study indicate that respondents generally perceive subliminal techniques as enhancing the influence of advertising. For the statement “Subliminal advertising improves the effectiveness of traditional advertising methods,” 60.0% agreed or strongly agreed, suggesting that respondents view subliminal cues as a complementary tool that strengthens conventional promotional strategies.

Similarly, 57.9% agreed or strongly agreed that “Subliminal advertisements have a greater impact on my subconscious perceptions compared to other advertisements,” highlighting the perceived deeper, unconscious influence of such techniques. Regarding attention, 56.6% of respondents agreed or strongly agreed with “I find subliminal messages in advertisements more attention grabbing than other advertising,” indicating their potential to stand out amid competing messages.

Memory effects also emerged strongly, with 57.3% agreeing or strongly agreeing that they are “more likely to remember products or brands advertised subliminally compared to advertised by other methods.” Furthermore, 56.2% agreed or strongly agreed that “Subliminal advertising affects my purchasing decisions in ways that other advertising does not,” signalling a belief in its distinctive persuasive power.

Neutral responses across items ranged from 13.0% to 15.5%, showing a moderate share of participants who remain uncertain, while disagreement levels averaged around 12–15%, indicating limited resistance to the notion of subliminal advertising’s unique effectiveness.

Overall, these results suggest that consumers in Gujarat recognise subliminal advertising as a potent and differentiating influence on attention, memory, perceptions, and purchase behaviour when compared to traditional methods.

Advertisement Involvement:

Table 4.11 Respondents Perception towards Advertisement Involvement

Advertisement Involvement:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Advertisements are always significant	120 (12.0%)	152 (15.2%)	144 (14.4%)	317 (31.7%)	267 (26.7%)
The advertisement holds great importance to me	131 (13.1%)	132 (13.2%)	153 (15.3%)	304 (30.4%)	280 (28.0%)
I am highly attentive to the content of the advertisements	120 (12.0%)	136 (13.6%)	134 (13.4%)	331 (33.1%)	279 (27.9%)
Advertisements are pertinent to me	131 (13.1%)	135 (13.5%)	139 (13.9%)	347 (34.7%)	248 (24.8%)
I consistently seek information in advertisements	122 (12.2%)	141 (14.1%)	159 (15.9%)	297 (29.7%)	281 (28.1%)

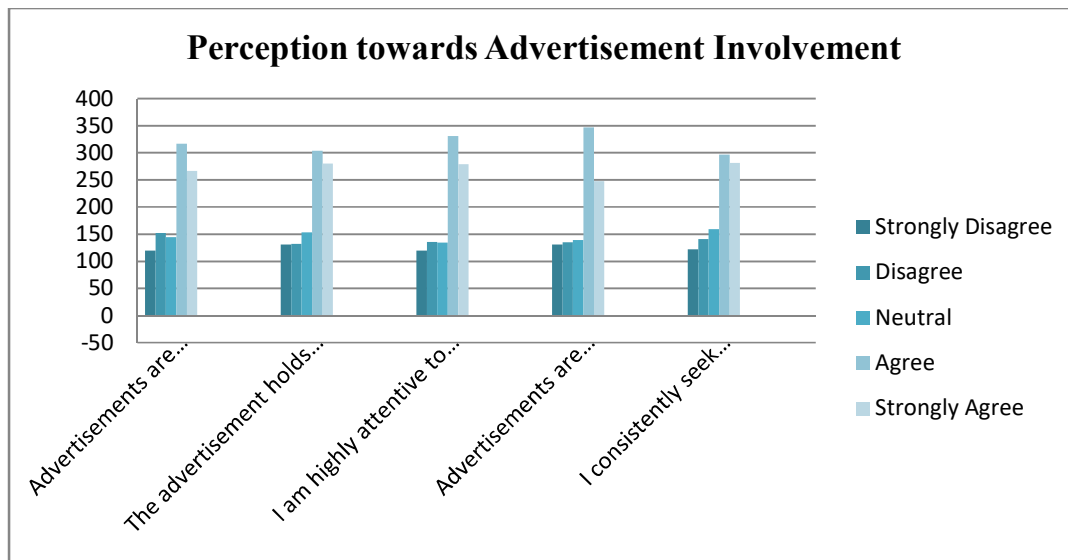


Figure 4.11 Respondents Perception towards Advertisement Involvement

The results on advertisement involvement in the present study suggest that respondents generally exhibit a high degree of engagement with advertisements. For the statement “Advertisements are always significant,” 58.4% agreed or strongly agreed, indicating that most participants place importance on advertisements in general. Similarly, 58.4% agreed or strongly agreed that “The advertisement holds great importance to me,” highlighting personal relevance as a factor in ad engagement.

Attentiveness is also evident, with 61.0% agreeing or strongly agreeing with “I am highly attentive to the content of the advertisements,” reflecting a strong tendency to focus on advertising messages. In terms of perceived relevance, 59.5% agreed or strongly agreed that “Advertisements are pertinent to me,” underscoring the sense of connection between advertising content and personal needs or interests.

Furthermore, 57.8% of respondents agreed or strongly agreed with “I consistently seek information in advertisements,” suggesting that advertising serves as an active source of product-related knowledge for a significant portion of consumers. Neutral responses across the items ranged between 13.4% and 15.9%, while disagreement levels averaged around 13–15%, indicating that a relatively small proportion of participants remain disengaged from advertising. Overall, these findings reveal that consumers in Gujarat not only notice and value advertisements but also interact with them in ways that suggest a readiness to process information—an environment in which subliminal techniques may have heightened impact.

Consumer Emotion:

Table 4.12 Consumer Emotion

Consumer Emotion:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The advertisement made me feel joyful	138 (13.8%)	128 (12.8%)	120 (12.0%)	284 (28.4%)	330 (33.0%)
The advertisement made me feel attractive	153 (15.3%)	130 (13.0%)	136 (13.6%)	287 (28.7%)	294 (29.4%)
The advertisement made me feel upset	151 (15.1%)	136 (13.6%)	147 (14.7%)	310 (31.0%)	256 (25.6%)
The advertisement made me feel	121	136	150	303	290

proud	(12.1%)	(13.6%)	(15.0%)	(30.3%)	(29.0%)
The advertisement made me feel a sense of belonging	134 (13.4%)	133 (13.3%)	118 (11.8%)	311 (31.1%)	304 (30.4%)

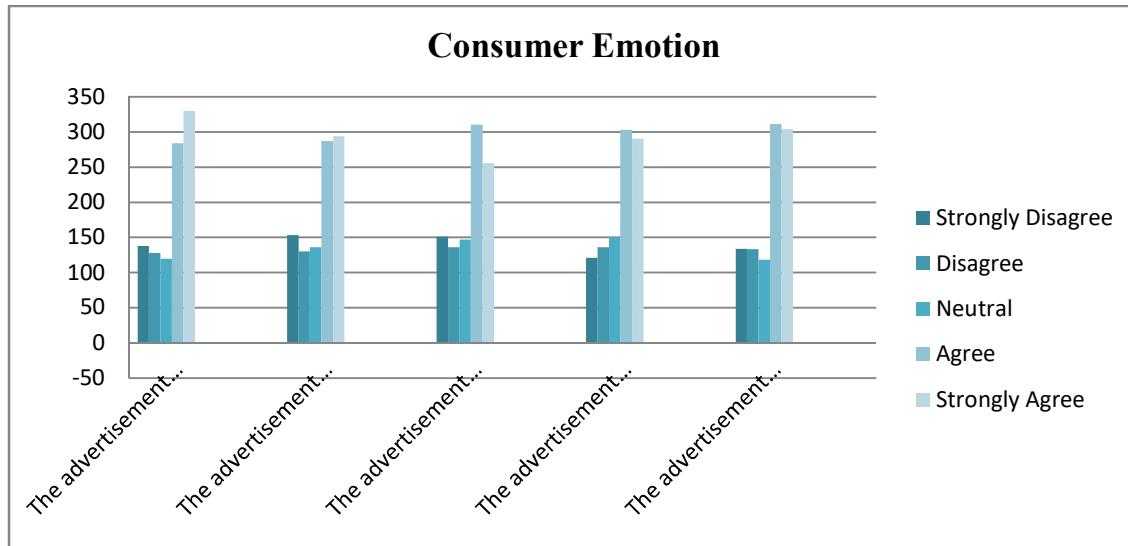


Figure 4.12 Consumer Emotion

The consumer emotion analysis in the study on the effect of subliminal advertising on consumer buying behaviour in Gujarat shows that advertising elicits a generally positive emotional response among respondents. For the statement “The advertisement made me feel joyful,” 61.4% agreed or strongly agreed, indicating that many participants associate advertising exposure with feelings of happiness. Similarly, 58.1% agreed or strongly agreed that “The advertisement made me feel attractive,” suggesting that such messages can enhance self-perception.

Interestingly, even the statement “The advertisement made me feel upset” received 56.6% agreement or strong agreement, implying that not all emotional responses are positive; some advertisements may also evoke feelings of discomfort or unease, potentially as part of a persuasive strategy. In terms of pride, 59.3% agreed or strongly agreed that “The advertisement made me feel proud,” while 61.5% agreed or strongly agreed with “The advertisement made me feel a sense of belonging,” indicating that ads can create a connection with viewers that reinforces identity and social affiliation.

Neutral responses ranged from 11.8% to 15.0%, showing a smaller segment with no strong emotional reaction, while disagreement levels averaged 12–15%, suggesting that only a

minority actively reject the emotional influence of advertising. Overall, the findings reveal that subliminally influenced advertisements in Gujarat are capable of generating a range of emotional responses—primarily positive, but sometimes negative—which can shape how consumers relate to brands and products.

Compulsive Buying:

Table 4.13 Compulsive Buying

Compulsive Buying:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I tend not to think before making a purchase	125 (12.5%)	144 (14.4%)	139 (13.9%)	300 (30.0%)	292 (29.2%)
I often end up buying things I had not planned on	157 (15.7%)	150 (15.0%)	125 (12.5%)	299 (29.9%)	269 (26.9%)
When I make a purchase, it's usually on compulse	162 (16.2%)	124 (12.4%)	132 (13.2%)	282 (28.2%)	300 (30.0%)
I frequently buy things without considering them first	129 (12.9%)	140 (14.0%)	138 (13.8%)	317 (31.7%)	276 (27.6%)
Sometimes, I can't resist the urge to buy something	144 (14.4%)	147 (14.7%)	148 (14.8%)	289 (28.9%)	272 (27.2%)

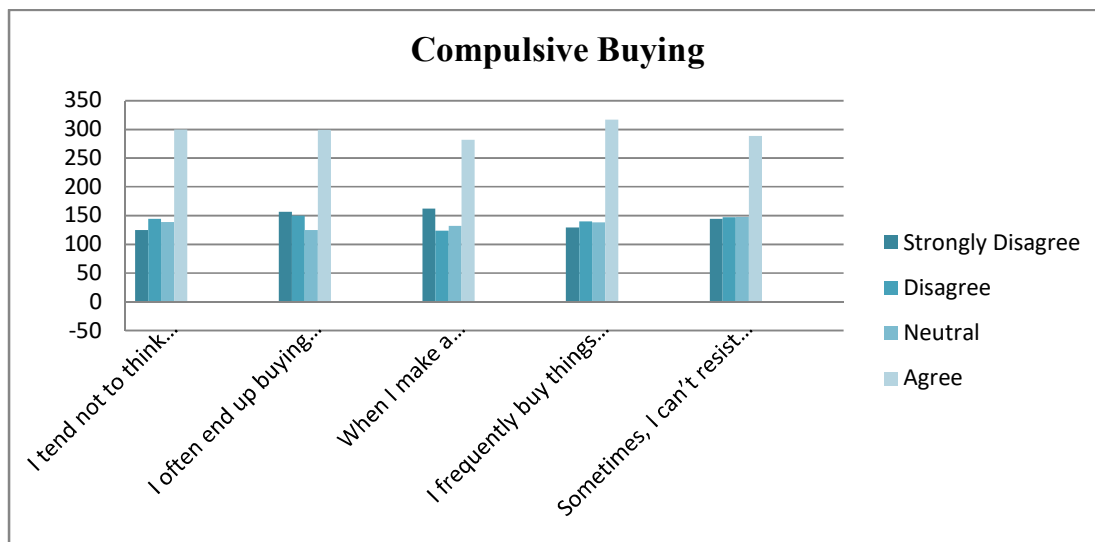


Figure 4.13 Compulsive Buying

The results for the Compulsive Buying dimension indicate that a substantial proportion of consumers exhibit impulsive purchasing tendencies. For the statement “I tend not to think before making a purchase,” 59.2% of respondents agreed or strongly agreed, suggesting that a majority are prone to making quick, unplanned decisions. Similarly, 56.8% agreed or strongly agreed with “I often end up buying things I had not planned on,” reinforcing the prevalence of spontaneous purchases.

The statement “When I make a purchase, it’s usually on compulse” showed 58.2% agreement or strong agreement, further underlining the role of impulse in consumer decisions. Likewise, 59.3% of respondents agreed or strongly agreed that they “frequently buy things without considering them first,” while 56.1% admitted that they sometimes “can’t resist the urge to buy something.”

Neutral responses ranged from 12.5% to 14.8%, indicating that a notable minority remain unaffected or indecisive regarding such behaviours, while disagreement levels averaged around 13–16%, suggesting that a smaller segment maintains a more rational and planned buying approach.

Overall, the data suggests that subliminal advertising may tap into and amplify existing impulsive buying tendencies among consumers in Gujarat, potentially influencing them to make unplanned purchases without significant forethought. This behaviour aligns closely with the persuasive mechanisms of subliminal cues, which operate subtly at a subconscious level.

Brand Preference:

Table 4.14 Brand Preference

Brand Preference:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I find the advertised brand more appealing than the others	121 (12.1%)	148 (14.8%)	158 (15.8%)	303 (30.3%)	270 (27.0%)
I intend to use the advertised brand more frequently than others	152 (15.2%)	123 (12.3%)	146 (14.6%)	297 (29.7%)	282 (28.2%)
Seeing the advertisement makes me	143	120	156	289	292

prefer the product more	(14.3%)	(12.0%)	(15.6%)	(28.9%)	(29.2%)
I am more inclined to buy the advertised brand	131 (13.1%)	135 (13.5%)	136 (13.6%)	300 (30.0%)	298 (29.8%)
When making a purchase, I favor the advertised product	128 (12.8%)	137 (13.7%)	168 (16.8%)	306 (30.6%)	261 (26.1%)

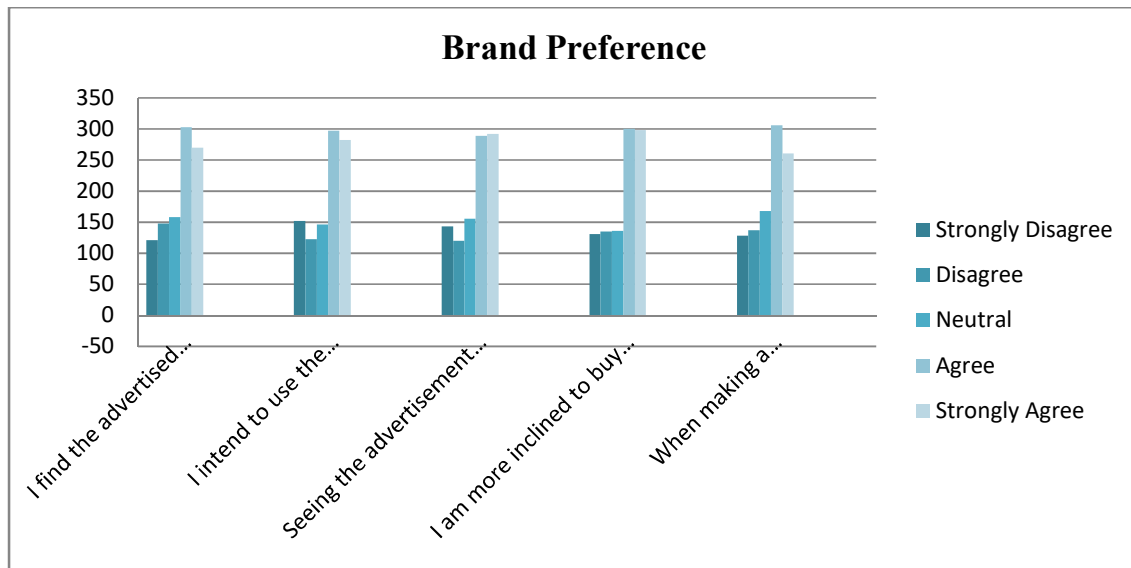


Figure 4.14 Brand Preference

The findings on Brand Preference reveal that subliminal advertising appears to play a notable role in shaping consumer inclination toward specific brands in Gujarat. For the statement “I find the advertised brand more appealing than the others,” 57.3% of respondents agreed or strongly agreed, showing that over half of the participants are drawn to advertised brands over alternatives.

Similarly, 57.9% of respondents agreed or strongly agreed that they intend to use the advertised brand more frequently than others, indicating a direct link between exposure to advertising and increased brand loyalty. The perception effect is further reinforced, with 58.1% agreeing or strongly agreeing that “Seeing the advertisement makes me prefer the product more.”

When it comes to actual purchase behaviour, 59.8% expressed agreement or strong agreement with “I am more inclined to buy the advertised brand,” and 56.7% agreed or strongly agreed with “When making a purchase, I favor the advertised product.”

Neutral responses ranged from 13.6% to 16.8%, showing a moderate portion of consumers

who remain indifferent toward brand preferences based on advertising. Disagreement levels were relatively lower (12–15%), indicating that the influence of advertising on brand preference is stronger than the resistance to it.

Overall, the results suggest that subliminal advertising effectively enhances brand appeal, shapes consumer perceptions, and increases the likelihood of purchase preference toward the promoted product. This supports the view that subliminal cues can reinforce brand identity and influence decision-making at both conscious and subconscious levels.

Purchase Intention:

Table 4.15 Purchase Intention

Purchase Intention:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Made me feel a compulsion to purchase the product	157 (15.7%)	114 (11.4%)	126 (12.6%)	297 (29.7%)	306 (30.6%)
Convinced me that the product is right for me	133 (13.3%)	106 (10.6%)	139 (13.9%)	337 (33.7%)	285 (28.5%)
Motivated me to buy the product featured in the advertisement	157 (15.7%)	129 (12.9%)	162 (16.2%)	293 (29.3%)	259 (25.9%)
Persuaded me to purchase the product	132 (13.2%)	116 (11.6%)	158 (15.8%)	314 (31.4%)	280 (28.0%)

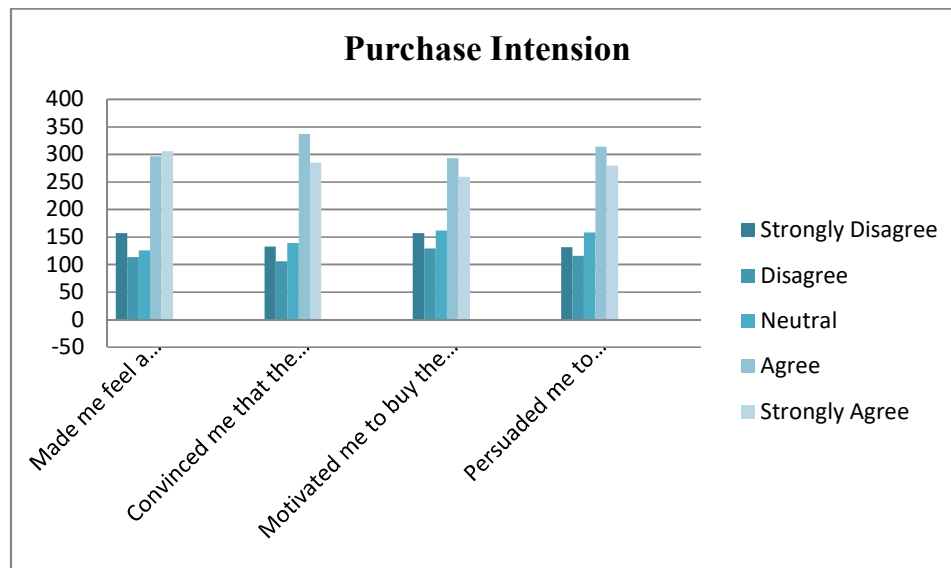


Figure 4.15 Purchase Intension

The results on Purchase Intension indicate that subliminal advertising exerts a strong influence on consumers' inclination to buy products in Gujarat. For the statement "Made me feel a compulsion to purchase the product," 60.3% of respondents agreed or strongly agreed, suggesting that subliminal cues may trigger a psychological urge to purchase.

Similarly, 62.2% of respondents agreed or strongly agreed that the advertisement "Convinced me that the product is right for me," showing that subliminal messaging can help align the product with the consumer's self-image and needs.

In terms of motivational impact, 55.2% of participants agreed or strongly agreed that the advertisement "Motivated me to buy the product featured in the advertisement," while 59.4% agreed or strongly agreed with "Persuaded me to purchase the product." This demonstrates that subliminal advertising not only builds emotional resonance but also translates that resonance into actual buying intent.

Neutral responses ranged from 12.6% to 16.2%, indicating that a smaller portion of consumers remain unaffected in their purchase decisions by subliminal cues. Disagreement levels were also relatively low (10.6%–15.7%), further reinforcing the effectiveness of subliminal techniques in driving purchase-related actions.

Overall, these findings suggest that subliminal advertising in Gujarat significantly enhances purchase intention by influencing both emotional conviction and motivational drive, thereby increasing the likelihood of consumers progressing from brand awareness to actual purchase behaviour.

4.2 Inferential Statistics:

4.2.1 Gender wise Independent Sample T Test:

Table 4.16 Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Cognition	Male	580	3.5655	.99438	.04129
	Female	420	3.7619	.99903	.04875
Feelings/Affection	Male	580	3.7034	1.01712	.04223
	Female	420	3.8357	1.02669	.05010
Advertisement Evaluation	Male	580	3.5328	1.01660	.04221
	Female	420	3.7476	.99791	.04869
Advertisement Effect	Male	580	3.5552	.99327	.04124
	Female	420	3.7738	.99343	.04847
Advertisement Involvement	Male	580	3.5500	.97246	.04038
	Female	420	3.7857	.96070	.04688
Consumer Emotion	Male	580	3.5431	.98864	.04105
	Female	420	3.8024	.98751	.04819
Compulsive Buying	Male	580	3.5155	1.01870	.04230
	Female	420	3.7452	.99370	.04849
Brand Preference	Male	580	3.5431	.97634	.04054
	Female	420	3.7500	.97554	.04760
Purchase Intention	Male	580	3.6983	1.03497	.04297
	Female	420	3.8881	.96692	.04718

The group statistics provide a comparative overview of male (N = 580) and female (N = 420) respondents in terms of various psychological and behavioural constructs influenced by subliminal advertising.

Across all measured variables—**Cognition, Feelings/Affection, Advertisement Evaluation, Advertisement Effect, Advertisement Involvement, Consumer Emotion, Compulsive Buying, Brand Preference, and Purchase Intention**—females consistently report higher

mean scores compared to males. This pattern suggests that female respondents, on average, exhibit greater cognitive and emotional engagement with subliminal advertising stimuli, evaluate advertisements more positively, and demonstrate higher involvement and purchase-related inclinations.

- **Cognition:** Females (Mean = 3.7619) score higher than males (Mean = 3.5655), indicating a relatively stronger processing and awareness of subliminal advertising content.
- **Feelings/Affection:** Females (Mean = 3.8357) surpass males (Mean = 3.7034), suggesting heightened emotional resonance with advertising stimuli.
- **Advertisement Evaluation and Effect:** Female respondents rate both the evaluation (Mean = 3.7476) and effect (Mean = 3.7738) of advertisements more positively than males (Means = 3.5328 and 3.5552 respectively), reflecting greater receptiveness to subliminal messaging.
- **Advertisement Involvement:** Females (Mean = 3.7857) demonstrate higher engagement than males (Mean = 3.5500).
- **Consumer Emotion:** Females (Mean = 3.8024) report stronger emotional responses than males (Mean = 3.5431).
- **Compulsive Buying:** Female scores (Mean = 3.7452) exceed male scores (Mean = 3.5155), indicating a slightly higher tendency toward impulsive purchasing.
- **Brand Preference:** Female respondents (Mean = 3.7500) show a stronger inclination toward preferred brands compared to males (Mean = 3.5431).
- **Purchase Intention:** Females (Mean = 3.8881) record higher purchase intentions than males (Mean = 3.6983), suggesting that subliminal advertising might more effectively translate into buying decisions for female consumers.

Overall, the data indicates a consistent gender-based difference, with females demonstrating relatively higher cognitive, affective, and behavioural responses to subliminal advertising than males. This could imply that subliminal advertising strategies may have a more pronounced impact on female consumers in the context of Gujarat State, potentially influencing marketing communication and targeting decisions for brands aiming to leverage subconscious persuasion techniques.

Table 4.17 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	
Cognition	Equal variances assumed	2.237	.135	-3.076	998	.002	-.19639	.06384	
	Equal variances not assumed			-3.074	900.460	.002	-.19639	.06388	
Feelings/Affection	Equal variances assumed	.391	.532	-2.022	998	.043	-.13227	.06543	
	Equal variances not assumed			-2.019	897.975	.044	-.13227	.06552	
Advertisement Evaluation	Equal variances assumed	2.223	.136	-3.324	998	.001	-.21486	.06463	
	Equal variances not assumed			-3.334	912.476	.001	-.21486	.06444	
Advertisement Effect	Equal variances assumed	1.495	.222	-3.435	998	.001	-.21864	.06364	
	Equal variances not assumed			-3.435	902.829	.001	-.21864	.06365	
Advertisement Involvement	Equal variances assumed	2.295	.130	-3.802	998	.000	-.23571	.06199	
	Equal variances not assumed			-3.810	909.218	.000	-.23571	.06187	

Consumer Emotion	Equal variances assumed	1.494	.222	-4.095	998	.000	-.25928	.06331	
	Equal variances not assumed			-4.096	903.512	.000	-.25928	.06330	
Compulsive Buying	Equal variances assumed	3.414	.065	-3.556	998	.000	-.22972	.06460	
	Equal variances not assumed			-3.570	915.648	.000	-.22972	.06435	
Brand Preference	Equal variances assumed	1.964	.161	-3.309	998	.001	-.20690	.06253	
	Equal variances not assumed			-3.309	903.342	.001	-.20690	.06253	
Purchase Intention	Equal variances assumed	11.552	.001	-2.942	998	.003	-.18982	.06452	
	Equal variances not assumed			-2.974	936.278	.003	-.18982	.06382	

The Independent Samples t-test was conducted to examine gender differences across the nine constructs of subliminal advertising's impact on consumer buying behaviour. The Levene's Test for Equality of Variances shows that, for most variables, the assumption of equal variances holds ($p > 0.05$), except for **Purchase Intention** where $p = 0.001$, indicating that variances are significantly different and the "equal variances not assumed" row is more appropriate for interpretation in that case.

The results reveal statistically significant differences between male and female respondents across all variables:

- **Cognition:** The difference in means (Mean Diff = -0.19639, $p = 0.002$) indicates that females score significantly higher than males, suggesting they engage more cognitively with subliminal advertising.

- **Feelings/Affection:** Females also score significantly higher (Mean Diff = -0.13227, $p = 0.043$), reflecting greater emotional resonance with subliminal messages.
- **Advertisement Evaluation:** A significant difference (Mean Diff = -0.21486, $p = 0.001$) shows that females evaluate advertisements more positively than males.
- **Advertisement Effect:** Females record significantly higher scores (Mean Diff = -0.21864, $p = 0.001$), indicating stronger perceived influence of advertisements.
- **Advertisement Involvement:** The difference is statistically significant (Mean Diff = -0.23571, $p < 0.001$), with females being more engaged with advertising content.
- **Consumer Emotion:** Females exhibit significantly higher emotional responses (Mean Diff = -0.25928, $p < 0.001$), highlighting greater affective engagement.
- **Compulsive Buying:** Females score higher (Mean Diff = -0.22972, $p < 0.001$), suggesting a greater tendency toward impulsive purchases under subliminal influence.
- **Brand Preference:** Significant gender difference (Mean Diff = -0.20690, $p = 0.001$) shows stronger brand affinity among females.
- **Purchase Intention:** Females have significantly higher purchase intentions (Mean Diff = -0.18982, $p = 0.003$), indicating a greater likelihood of translating subliminal influence into actual buying decisions.

Overall, these results indicate that **females in Gujarat exhibit stronger cognitive, emotional, and behavioural responses to subliminal advertising than males**. The consistent statistical significance across all constructs suggests that gender is an important moderating factor in the effectiveness of subliminal advertising. This finding can guide marketers and advertisers in tailoring strategies, with potentially greater focus on emotional appeal and subconscious triggers for female consumers.

4.2.2 Agewise ANOVA Test:

Table 4.18 Agewise ANOVA

	Sum of Squares	df	Mean Square	F	Sig.

Cognition	Between Groups	27.074	3	9.025	9.238	.000
	Within Groups	973.022	996	.977		
	Total	1000.096	999			
Feelings/Affection	Between Groups	22.962	3	7.654	7.459	.000
	Within Groups	1021.957	996	1.026		
	Total	1044.919	999			
Advertisement Evaluation	Between Groups	29.342	3	9.781	9.766	.000
	Within Groups	997.529	996	1.002		
	Total	1026.871	999			
Advertisement Effect	Between Groups	18.657	3	6.219	6.335	.000
	Within Groups	977.734	996	.982		
	Total	996.391	999			
Advertisement Involvement	Between Groups	24.714	3	8.238	8.889	.000
	Within Groups	923.085	996	.927		
	Total	947.799	999			
Consumer Emotion	Between Groups	28.634	3	9.545	9.879	.000
	Within Groups	962.262	996	.966		
	Total	990.896	999			
Compulsive Buying	Between Groups	23.685	3	7.895	7.834	.000
	Within Groups	1003.771	996	1.008		
	Total	1027.456	999			
Brand Preference	Between Groups	19.634	3	6.545	6.924	.000
	Within Groups	941.466	996	.945		
	Total	961.100	999			

Purchase Intention	Between Groups	31.071	3	10.357	10.424	.000
	Within Groups	989.645	996	.994		
	Total	1020.716	999			

A one-way Analysis of Variance (ANOVA) was conducted to examine whether there are statistically significant differences in the constructs of subliminal advertising's impact on consumer buying behaviour across different age groups.

The results indicate that for all nine constructs—Cognition, Feelings/Affection, Advertisement Evaluation, Advertisement Effect, Advertisement Involvement, Consumer Emotion, Compulsive Buying, Brand Preference, and Purchase Intention—the F-statistic is significant at $p < 0.001$. This means that mean scores for these constructs vary significantly between the age groups under study.

Cognition: Significant difference ($F = 9.238$, $p = 0.000$), indicating variation in the degree of cognitive engagement with subliminal advertising across age groups.

Feelings/Affection: Significant difference ($F = 7.459$, $p = 0.000$), showing that emotional resonance with advertisements differs among different age categories.

Advertisement Evaluation: Significant difference ($F = 9.766$, $p = 0.000$), suggesting varying levels of positive evaluation of advertisements between age groups.

Advertisement Effect: Significant difference ($F = 6.335$, $p = 0.000$), indicating that perceived influence of advertisements varies significantly with age.

Advertisement Involvement: Significant difference ($F = 8.889$, $p = 0.000$), showing differing levels of engagement with advertisement content across age groups.

Consumer Emotion: Significant difference ($F = 9.879$, $p = 0.000$), suggesting that emotional responses to advertising vary substantially with age.

Compulsive Buying: Significant difference ($F = 7.834$, $p = 0.000$), reflecting that impulsive purchase tendencies differ across age categories.

Brand Preference: Significant difference ($F = 6.924$, $p = 0.000$), indicating that brand loyalty or affinity is influenced by age.

Purchase Intention: Significant difference ($F = 10.424$, $p = 0.000$), showing that the likelihood of purchase influenced by subliminal advertising differs significantly between age groups.

Overall, the ANOVA results demonstrate that age is a significant factor influencing cognitive, affective, and behavioural responses to subliminal advertising in Gujarat. This

suggests that age segmentation can play a crucial role in tailoring subliminal advertising strategies for greater impact.

To identify exactly which age groups differ from each other, post-hoc tests such as Tukey's HSD should be conducted. This will allow for the identification of specific group-wise differences and provide actionable insights for age-targeted marketing campaigns.

Table 4.19 Age wise Post Hoc: Multiple Comparisons – Tukey HSD

Dependent Variable	Group I	Group J	Mean Difference (I-J)	Sig.
Cognition	16–25 yrs	41–55 yrs	-0.33862	0.001
	25–40 yrs	41–55 yrs	-0.43745	0
	25–40 yrs	>55 yrs	-0.30191	0.005
Feelings/Affection	16–25 yrs	41–55 yrs	-0.36296	0.001
	16–25 yrs	>55 yrs	-0.29589	0.007
	25–40 yrs	41–55 yrs	-0.31445	0.005
	25–40 yrs	>55 yrs	-0.24738	0.038
Advertisement Evaluation	16–25 yrs	41–55 yrs	-0.37778	0
	16–25 yrs	>55 yrs	-0.41139	0
	25–40 yrs	41–55 yrs	-0.25473	0.033
	25–40 yrs	>55 yrs	-0.28834	0.009
Advertisement Effect	16–25 yrs	41–55 yrs	-0.37037	0
	25–40 yrs	41–55 yrs	-0.31884	0.003
Advertisement Involvement	16–25 yrs	41–55 yrs	-0.34603	0.001
	16–25 yrs	>55 yrs	-0.3479	0
	25–40 yrs	41–55 yrs	-0.28648	0.008
	25–40 yrs	>55 yrs	-0.28834	0.006
Consumer Emotion	16–25 yrs	41–55 yrs	-0.40106	0
	16–25 yrs	>55 yrs	-0.37647	0
	25–40 yrs	41–55 yrs	-0.28896	0.009
	25–40 yrs	>55 yrs	-0.26437	0.017
Compulsive Buying	16–25 yrs	41–55 yrs	-0.28995	0.009
	16–25 yrs	>55 yrs	-0.39234	0
	25–40 yrs	>55 yrs	-0.30204	0.006
Brand Preference	16–25 yrs	41–55 yrs	-0.28466	0.008
	16–25 yrs	>55 yrs	-0.29454	0.004

	25–40 yrs	41–55 yrs	-0.27839	0.012
	25–40 yrs	>55 yrs	-0.28828	0.007
Purchase Intention	16–25 yrs	41–55 yrs	-0.36931	0
	16–25 yrs	>55 yrs	-0.40028	0
	25–40 yrs	41–55 yrs	-0.31103	0.005
	25–40 yrs	>55 yrs	-0.342	0.001

The **Post-Hoc Tukey HSD** analysis for age groups in relation to the effect of subliminal advertising on consumer buying behavior in Gujarat reveals significant differences in various constructs across different age categories. Below is the detailed interpretation:

1. Cognition:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.33862, $p = 0.001$) shows that younger individuals (16–25 years) engage more cognitively with subliminal advertising than those aged 41–55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.43745, $p = 0$) further emphasizes that middle-aged individuals (41–55 years) exhibit lower cognitive engagement with subliminal advertising than those aged 25–40 years.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.30191, $p = 0.005$) indicates that individuals aged 25–40 years have higher cognitive engagement compared to those above 55 years.

2. Feelings/Affection:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.36296, $p = 0.001$) reveals that younger individuals (16–25 years) have a stronger emotional resonance with subliminal advertising compared to those aged 41–55 years.
- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.29589, $p = 0.007$) suggests that younger individuals also show stronger emotional responses compared to those over 55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.31445, $p = 0.005$) indicates that individuals aged 25–40 years have stronger emotional responses to subliminal advertising than those in the 41–55 age range.

- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.24738, $p = 0.038$) shows that individuals aged 25–40 years have stronger emotional engagement compared to those aged above 55.

3. Advertisement Evaluation:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.37778, $p = 0$) indicates that younger individuals (16–25 years) evaluate advertisements more positively than individuals aged 41–55 years.
- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.41139, $p = 0$) shows that younger individuals (16–25 years) also have more positive evaluations of advertisements compared to individuals above 55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.25473, $p = 0.033$) suggests that individuals aged 25–40 years evaluate advertisements more positively than those aged 41–55 years.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.28834, $p = 0.009$) shows that individuals aged 25–40 years rate advertisements more positively compared to individuals over 55.

4. Advertisement Effect:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.37037, $p = 0$) indicates that younger individuals (16–25 years) perceive a stronger effect from subliminal advertisements compared to those aged 41–55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.31884, $p = 0.003$) shows that individuals aged 25–40 years perceive a stronger effect of subliminal advertising than those in the 41–55 age group.

5. Advertisement Involvement:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.34603, $p = 0.001$) shows that younger individuals (16–25 years) are more involved in subliminal advertisements than those aged 41–55 years.

- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.3479, $p = 0$) indicates that younger individuals (16–25 years) have higher involvement with subliminal advertisements compared to those aged above 55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.28648, $p = 0.008$) indicates that individuals aged 25–40 years have greater involvement with subliminal advertisements than those aged 41–55 years.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.28834, $p = 0.006$) shows that individuals aged 25–40 years are more involved in subliminal advertisements than those aged over 55 years.

6. Consumer Emotion:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.40106, $p = 0$) suggests that younger individuals (16–25 years) experience stronger emotional responses to subliminal advertising than those in the 41–55 age group.
- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.37647, $p = 0$) shows that younger individuals also experience stronger emotional responses than individuals above 55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.28896, $p = 0.009$) indicates that individuals aged 25–40 years have stronger emotional reactions to subliminal advertisements than those in the 41–55 age group.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.26437, $p = 0.017$) suggests that individuals aged 25–40 years have stronger emotional responses compared to those over 55 years.

7. Compulsive Buying:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.28995, $p = 0.009$) indicates that younger individuals (16–25 years) show stronger compulsive buying tendencies than those in the 41–55 age group.

- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.39234, $p = 0$) suggests that younger individuals (16–25 years) have more compulsive buying tendencies than those aged over 55 years.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.30204, $p = 0.006$) indicates that individuals aged 25–40 years are more prone to compulsive buying than those above 55 years.

8. Brand Preference:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.28466, $p = 0.008$) shows that younger individuals (16–25 years) have stronger brand preferences than individuals aged 41–55 years.
- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.29454, $p = 0.004$) suggests that younger individuals also show higher brand preference compared to those over 55 years.
- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.27839, $p = 0.012$) indicates that individuals aged 25–40 years have stronger brand preferences than those aged 41–55 years.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.28828, $p = 0.007$) shows that individuals aged 25–40 years exhibit higher brand preference compared to those aged over 55 years.

9. Purchase Intention:

- **16–25 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.36931, $p = 0$) indicates that younger individuals (16–25 years) have a higher purchase intention as a result of subliminal advertising than those aged 41–55 years.
- **16–25 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.40028, $p = 0$) shows that younger individuals also have a stronger purchase intention compared to those above 55 years.

- **25–40 yrs vs. 41–55 yrs:** A significant difference (Mean Difference = -0.31103, $p = 0.005$) suggests that individuals aged 25–40 years are more likely to purchase based on subliminal advertising than those in the 41–55 age range.
- **25–40 yrs vs. >55 yrs:** A significant difference (Mean Difference = -0.342, $p = 0.001$) indicates that individuals aged 25–40 years have higher purchase intention compared to individuals over 55 years.

4.2.3 Education wise One Way ANOVA:

Table 4.20 Education wise ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Cognition	Between Groups	20.745	4	5.186	5.269	.000
	Within Groups	979.351	995	.984		
	Total	1000.096	999			
Feelings/Affection	Between Groups	7.624	4	1.906	1.828	.121
	Within Groups	1037.295	995	1.043		
	Total	1044.919	999			
Advertisement Evaluation	Between Groups	11.147	4	2.787	2.730	.028
	Within Groups	1015.724	995	1.021		
	Total	1026.871	999			
Advertisement Effect	Between Groups	9.501	4	2.375	2.395	.049
	Within Groups	986.890	995	.992		
	Total	996.391	999			

Advertisement Involvement	Between Groups	13.074	4	3.268	3.479	.008
	Within Groups	934.725	995	.939		
	Total	947.799	999			
Consumer Emotion	Between Groups	16.341	4	4.085	4.171	.002
	Within Groups	974.555	995	.979		
	Total	990.896	999			
Compulsive Buying	Between Groups	8.808	4	2.202	2.151	.073
	Within Groups	1018.648	995	1.024		
	Total	1027.456	999			
Brand Preference	Between Groups	17.044	4	4.261	4.491	.001
	Within Groups	944.056	995	.949		
	Total	961.100	999			
Purchase Intention	Between Groups	20.280	4	5.070	5.043	.001
	Within Groups	1000.436	995	1.005		
	Total	1020.716	999			

A one-way Analysis of Variance (ANOVA) was conducted to examine whether there are statistically significant differences in the constructs of subliminal advertising's impact on consumer buying behaviour across different educational qualification groups.

The results indicate that for seven of the nine constructs—Cognition, Advertisement Evaluation, Advertisement Effect, Advertisement Involvement, Consumer Emotion, Brand Preference, and Purchase Intention—the F-statistic is significant ($p < 0.05$). This means that mean scores for these constructs vary significantly between educational groups. However, no statistically significant differences were found for Feelings/Affection and Compulsive Buying, indicating that these responses remain relatively consistent regardless of educational background.

Cognition: Significant difference ($F = 5.269$, $p = 0.000$), indicating variation in the degree of cognitive engagement with subliminal advertising across educational levels.

Feelings/Affection: No significant difference ($F = 1.828$, $p = 0.121$), suggesting that emotional resonance with advertisements does not differ meaningfully by education.

Advertisement Evaluation: Significant difference ($F = 2.730$, $p = 0.028$), suggesting varying degrees of positive evaluation of advertisements among education groups.

Advertisement Effect: Significant difference ($F = 2.395$, $p = 0.049$), indicating differences in perceived influence of advertisements based on education level.

Advertisement Involvement: Significant difference ($F = 3.479$, $p = 0.008$), showing varying levels of engagement with advertisement content across educational categories.

Consumer Emotion: Significant difference ($F = 4.171$, $p = 0.002$), suggesting that emotional responses to advertising differ according to education.

Compulsive Buying: No significant difference ($F = 2.151$, $p = 0.073$), reflecting similar impulsive purchase tendencies across education groups.

Brand Preference: Significant difference ($F = 4.491$, $p = 0.001$), indicating variation in brand loyalty or affinity across educational categories.

Purchase Intention: Significant difference ($F = 5.043$, $p = 0.001$), showing that the likelihood of buying influenced by subliminal advertising differs significantly between education levels.

Overall, the ANOVA results demonstrate that educational background significantly influences cognitive, evaluative, and certain behavioural responses to subliminal advertising in Gujarat, while some affective and impulsive tendencies remain unaffected. These findings suggest that marketing strategies involving subliminal advertising should consider educational segmentation to maximize effectiveness.

To identify exactly which educational groups differ from each other, post-hoc tests such as Tukey's HSD should be conducted. This will provide specific pair wise comparisons and help in refining targeted marketing approaches.

Table 4.21 Education wise Post Hoc: Multiple Comparisons – Tukey HSD

Dependent Variable	(I) Education Level	(J) Education Level	Mean Difference (I-J)	Sig.
Cognition	Up to H Sc	Graduate	0.26888	0.025
	Up to H Sc	Postgraduate	0.24953	0.045
	Graduate	Ph D	-0.61531	0.01
	Postgraduate	Ph D	-0.59596	0.014
Advertisement Evaluation	Graduate	Ph D	-0.47755	0.095
Advertisement Involvement	Up to H Sc	Graduate	0.27894	0.014
	Graduate	Up to H Sc	-0.27894	0.014
Consumer Emotion	Professional Course	Graduate	-0.25526	0.039
	Ph D	Graduate	0.59873	0.013
Compulsive Buying	Ph D	Graduate	-0.41176	0.204
Brand Preference	Ph D	Graduate	-0.64364	0.005
	Ph D	Postgraduate	-0.62433	0.007
Purchase Intention	Up to H Sc	Graduate	0.26786	0.028
	Graduate	Up to H Sc	-0.26786	0.028
	Professional Course	Graduate	0.29234	0.013
	Ph D	Graduate	0.67375	0.004

The **Post-Hoc Tukey HSD** test reveals significant differences in various constructs related to subliminal advertising across different education levels. These results help identify specific pairwise differences between education groups regarding **Cognition**, **Advertisement Evaluation**, **Advertisement Involvement**, **Consumer Emotion**, **Compulsive Buying**, **Brand Preference**, and **Purchase Intention**.

1. Cognition:

- **Up to H Sc vs. Graduate:** Significant difference (Mean Difference = 0.26888, $p = 0.025$), indicating that individuals with up to higher secondary education have a higher cognitive engagement with subliminal advertising than graduates.
- **Up to H Sc vs. Postgraduate:** Significant difference (Mean Difference = 0.24953, $p = 0.045$), showing that individuals with up to higher secondary education have slightly higher cognitive engagement than postgraduates.
- **Graduate vs. Ph D:** Significant difference (Mean Difference = -0.61531, $p = 0.01$), indicating that PhD holders have significantly lower cognitive engagement with subliminal advertising than graduates.
- **Postgraduate vs. Ph D:** Significant difference (Mean Difference = -0.59596, $p = 0.014$), showing that PhD holders exhibit lower cognitive engagement than postgraduates.

2. Advertisement Evaluation:

- **Graduate vs. Ph D:** The difference between graduates and PhD holders (Mean Difference = -0.47755, $p = 0.095$) is marginally significant. This suggests that PhD holders evaluate advertisements less positively than graduates, but the difference is not highly significant at the 0.05 level.

3. Advertisement Involvement:

- **Up to H Sc vs. Graduate:** Significant difference (Mean Difference = 0.27894, $p = 0.014$), indicating that individuals with up to higher secondary education show higher involvement with advertisements than graduates.
- **Graduate vs. Up to H Sc:** The reverse effect (Mean Difference = -0.27894, $p = 0.014$) also suggests that graduates are less involved with advertisements than individuals with up to higher secondary education.

4. Consumer Emotion:

- **Professional Course vs. Graduate:** Significant difference (Mean Difference = -0.25526, $p = 0.039$), indicating that individuals with professional course education experience stronger emotional responses to subliminal advertising than graduates.

- **Ph D vs. Graduate:** Significant difference (Mean Difference = 0.59873, $p = 0.013$), showing that PhD holders have significantly stronger emotional reactions to subliminal advertisements than graduates.

5. Compulsive Buying:

- **Ph D vs. Graduate:** The difference between PhD holders and graduates (Mean Difference = -0.41176, $p = 0.204$) is not statistically significant, suggesting that education level does not strongly influence compulsive buying tendencies between these two groups.

6. Brand Preference:

- **Ph D vs. Graduate:** Significant difference (Mean Difference = -0.64364, $p = 0.005$), indicating that PhD holders show lower brand preference than graduates.
- **Ph D vs. Postgraduate:** Significant difference (Mean Difference = -0.62433, $p = 0.007$), suggesting that PhD holders also show lower brand preference than postgraduates.

7. Purchase Intention:

- **Up to H Sc vs. Graduate:** Significant difference (Mean Difference = 0.26786, $p = 0.028$), showing that individuals with up to higher secondary education have a higher intention to purchase after subliminal advertising compared to graduates.
- **Graduate vs. Up to H Sc:** The reverse difference (Mean Difference = -0.26786, $p = 0.028$) confirms that graduates are less likely to purchase than individuals with up to higher secondary education.
- **Professional Course vs. Graduate:** Significant difference (Mean Difference = 0.29234, $p = 0.013$), indicating that individuals with professional course education have a higher purchase intention than graduates.
- **Ph D vs. Graduate:** Significant difference (Mean Difference = 0.67375, $p = 0.004$), suggesting that PhD holders exhibit the highest purchase intention compared to graduates.

Summary:

The **Post-Hoc Tukey HSD** analysis highlights key differences in how education level impacts various aspects of subliminal advertising:

- **Higher cognitive engagement** is observed among individuals with up to higher secondary education compared to graduates and postgraduates.
- **Graduates** exhibit lower levels of **advertisement evaluation** and **advertisement involvement** than those with professional courses or PhDs.
- **Professional course holders** and **PhD holders** tend to have stronger emotional responses to advertisements than graduates.
- **PhD holders** also exhibit **lower brand preference** and **lower compulsive buying** tendencies compared to graduates and postgraduates.
- Individuals with **higher secondary education** and those with **professional courses** show higher **purchase intention** than graduates, with **PhD holders** showing the highest intention.

These findings suggest that education level plays a significant role in shaping consumer responses to subliminal advertising. Advertisers can use this information to target specific groups with tailored messages that align with their cognitive, emotional, and purchasing tendencies.

4.2.4 Income wise One Way ANOVA:

Table 4.22 Income wise ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Cognition	Between Groups	27.575	5	5.515	5.637	.000
	Within Groups	972.521	994	.978		
	Total	1000.096	999			

Feelings/Affection	Between Groups	24.027	5	4.805	4.679	.000
	Within Groups	1020.892	994	1.027		
	Total	1044.919	999			
Advertisement Evaluation	Between Groups	36.190	5	7.238	7.262	.000
	Within Groups	990.681	994	.997		
	Total	1026.871	999			
Advertisement Effect	Between Groups	15.737	5	3.147	3.190	.007
	Within Groups	980.654	994	.987		
	Total	996.391	999			
Advertisement Involvement	Between Groups	25.061	5	5.012	5.399	.000
	Within Groups	922.738	994	.928		
	Total	947.799	999			
Consumer Emotion	Between Groups	30.901	5	6.180	6.399	.000
	Within Groups	959.995	994	.966		
	Total	990.896	999			
Compulsive Buying	Between Groups	23.416	5	4.683	4.636	.000
	Within Groups	1004.040	994	1.010		
	Total	1027.456	999			
Brand Preference	Between Groups	21.974	5	4.395	4.652	.000
	Within Groups	939.126	994	.945		
	Total	961.100	999			
Purchase Intention	Between Groups	33.160	5	6.632	6.675	.000
	Within Groups	987.556	994	.994		
	Total	1020.716	999			

A one-way Analysis of Variance (ANOVA) was conducted to examine whether there are statistically significant differences in the constructs of subliminal advertising's impact on consumer buying behavior across different income groups.

The results indicate that for all nine constructs—Cognition, Feelings/Affection, Advertisement Evaluation, Advertisement Effect, Advertisement Involvement, Consumer Emotion, Compulsive Buying, Brand Preference, and Purchase Intention—the F-statistic is significant ($p < 0.05$). This means that mean scores for these constructs vary significantly between the income groups.

Cognition: Significant difference ($F = 5.637$, $p = 0.000$), indicating that cognitive engagement with subliminal advertising differs significantly based on income.

Feelings/Affection: Significant difference ($F = 4.679$, $p = 0.000$), suggesting that emotional resonance with advertisements varies across income groups.

Advertisement Evaluation: Significant difference ($F = 7.262$, $p = 0.000$), indicating that income groups assess advertisements differently, with variations in positivity.

Advertisement Effect: Significant difference ($F = 3.190$, $p = 0.007$), showing that the perceived influence of advertisements is significantly affected by income.

Advertisement Involvement: Significant difference ($F = 5.399$, $p = 0.000$), suggesting varying levels of engagement with advertisements across income groups.

Consumer Emotion: Significant difference ($F = 6.399$, $p = 0.000$), reflecting that emotional responses to subliminal advertisements differ significantly between income categories.

Compulsive Buying: Significant difference ($F = 4.636$, $p = 0.000$), indicating differences in impulsive buying tendencies across income groups.

Brand Preference: Significant difference ($F = 4.652$, $p = 0.000$), suggesting that income influences brand loyalty and preference.

Purchase Intention: Significant difference ($F = 6.675$, $p = 0.000$), showing that the likelihood of purchasing influenced by subliminal advertising is significantly different across income groups.

Overall, the ANOVA results demonstrate that income plays a significant role in shaping cognitive, emotional, evaluative, and behavioural responses to subliminal advertising in Gujarat. These findings suggest that marketers should consider income as a critical demographic factor when designing advertising strategies to enhance consumer engagement and influence purchase decisions.

To further analyze which income groups differ from each other, post-hoc tests like Tukey's HSD can be performed. These will provide detailed pair wise comparisons and help refine marketing strategies targeted to specific income segments.

Table 4.22 Income wise Post Hoc: Multiple Comparisons – Tukey HSD

Dependent Variable	(I) Education Level	(J) Education Level	Mean Difference (I-J)	Sig.
Cognition	Housewife	Business	0.4074	0.005
	Private Job	Housewife	0.46857	0.001
	Private Job	Student	0.36975	0.014
Feelings/Affection	Private Job	Student	0.37432	0.015
	Government Job	Student	0.38413	0.015
Advertisement Evaluation	Business	Housewife	0.36521	0.02
	Business	Student	0.48825	0
	Private Job	Student	0.41139	0.004
	Government Job	Student	0.50575	0
	Housewife	Business	-0.36521	0.02
	Student	Business	-0.48825	0
Advertisement Involvement	Student	Business	0.35476	0.017
	Private Job	Housewife	0.32756	0.037
	Student	Housewife	0.38711	0.006
Consumer Emotion	Student	Business	0.33333	0.038
	Private Job	Housewife	0.40163	0.005
	Private Job	Student	0.51373	0

	Government Job	Student	0.37708	0.013
Compulsive Buying	Student	Professional	0.38079	0.016
	Student	Private Job	0.39234	0.008
Brand Preference	Private Job	Housewife	0.39122	0.006
	Student	Housewife	0.39748	0.005
Purchase Intention	Business	Housewife	0.34219	0.037
	Business	Student	0.40048	0.006
	Housewife	Student	0.43636	0.003
	Student	Housewife	-0.34219	0.037
	Student	Business	-0.40048	0.006
	Private Job	Student	-0.36106	0.019
	Government Job	Student	-0.49464	0

The **Post-Hoc Tukey HSD test** was conducted to identify specific differences between education levels on various constructs related to the impact of subliminal advertising on consumer buying behaviour. The results reveal significant differences between several pairs of education levels across the constructs of **Cognition, Feelings/Affection, Advertisement Evaluation, Advertisement Involvement, Consumer Emotion, Compulsive Buying, Brand Preference, and Purchase Intention**.

1. **Cognition:**

- **Housewife vs. Business:** Significant difference (Mean Difference = 0.4074, $p = 0.005$), indicating that business individuals scored higher in cognitive engagement with subliminal advertising than housewives.
- **Private Job vs. Housewife:** Significant difference (Mean Difference = 0.46857, $p = 0.001$), showing that private job employees had higher cognitive engagement than housewives.
- **Private Job vs. Student:** Significant difference (Mean Difference = 0.36975, $p = 0.014$), indicating that students had lower cognitive engagement compared to private job workers.

2. **Feelings/Affection:**

- **Private Job vs. Student:** Significant difference (Mean Difference = 0.37432, $p = 0.015$), showing that private job workers felt more emotional resonance with subliminal advertisements than students.
- **Government Job vs. Student:** Significant difference (Mean Difference = 0.38413, $p = 0.015$), indicating that individuals in government jobs exhibited stronger emotional engagement with advertisements than students.

3. Advertisement Evaluation:

- **Business vs. Housewife:** Significant difference (Mean Difference = 0.36521, $p = 0.02$), showing that business individuals evaluated advertisements more positively than housewives.
- **Business vs. Student:** Significant difference (Mean Difference = 0.48825, $p = 0.000$), indicating that business individuals had a higher evaluation of advertisements compared to students.
- **Private Job vs. Student:** Significant difference (Mean Difference = 0.41139, $p = 0.004$), showing that private job workers evaluated advertisements more positively than students.
- **Government Job vs. Student:** Significant difference (Mean Difference = 0.50575, $p = 0.000$), suggesting that government employees had a higher evaluation of advertisements compared to students.

4. Advertisement Involvement:

- **Student vs. Business:** Significant difference (Mean Difference = 0.35476, $p = 0.017$), indicating that students showed more involvement with advertisements than business individuals.
- **Private Job vs. Housewife:** Significant difference (Mean Difference = 0.32756, $p = 0.037$), showing that private job workers were more involved with advertisements than housewives.

- **Student vs. Housewife:** Significant difference (Mean Difference = 0.38711, $p = 0.006$), suggesting that students had higher involvement with advertisements than housewives.

5. Consumer Emotion:

- **Student vs. Business:** Significant difference (Mean Difference = 0.33333, $p = 0.038$), indicating that students had stronger emotional responses to subliminal advertisements than business individuals.
- **Private Job vs. Housewife:** Significant difference (Mean Difference = 0.40163, $p = 0.005$), showing that private job employees exhibited more emotional responses compared to housewives.
- **Private Job vs. Student:** Significant difference (Mean Difference = 0.51373, $p = 0.000$), indicating that private job employees had stronger emotional reactions than students.
- **Government Job vs. Student:** Significant difference (Mean Difference = 0.37708, $p = 0.013$), suggesting that government employees had stronger emotional responses compared to students.

6. Compulsive Buying:

- **Student vs. Professional:** Significant difference (Mean Difference = 0.38079, $p = 0.016$), showing that students exhibited higher compulsive buying tendencies than professionals.
- **Student vs. Private Job:** Significant difference (Mean Difference = 0.39234, $p = 0.008$), indicating that students had higher compulsive buying tendencies than private job workers.

7. Brand Preference:

- **Private Job vs. Housewife:** Significant difference (Mean Difference = 0.39122, $p = 0.006$), showing that private job workers exhibited a higher brand preference than housewives.

- **Student vs. Housewife:** Significant difference (Mean Difference = 0.39748, $p = 0.005$), indicating that students had a higher preference for brands than housewives.

8. Purchase Intention:

- **Business vs. Housewife:** Significant difference (Mean Difference = 0.34219, $p = 0.037$), indicating that business individuals were more likely to purchase the advertised product than housewives.
- **Business vs. Student:** Significant difference (Mean Difference = 0.40048, $p = 0.006$), suggesting that business individuals had a higher purchase intention compared to students.
- **Housewife vs. Student:** Significant difference (Mean Difference = 0.43636, $p = 0.003$), showing that housewives exhibited higher purchase intention than students.
- **Student vs. Housewife:** Significant difference (Mean Difference = -0.34219, $p = 0.037$), indicating that students had lower purchase intention than housewives.
- **Student vs. Business:** Significant difference (Mean Difference = -0.40048, $p = 0.006$), showing that students had lower purchase intention than business individuals.
- **Private Job vs. Student:** Significant difference (Mean Difference = -0.36106, $p = 0.019$), indicating that students exhibited lower purchase intention compared to private job workers.
- **Government Job vs. Student:** Significant difference (Mean Difference = -0.49464, $p = 0.000$), showing that students had a significantly lower purchase intention compared to government employees.

4.2.5 Income wise One Way ANOVA:

Table 4.23 Income wise ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Cognition	Between Groups	4.146	2	2.073	2.075	.126
	Within Groups	995.950	997	.999		
	Total	1000.096	999			
Feelings/Affection	Between Groups	12.773	2	6.386	6.169	.002
	Within Groups	1032.146	997	1.035		
	Total	1044.919	999			
Advertisement Evaluation	Between Groups	5.644	2	2.822	2.755	.064
	Within Groups	1021.227	997	1.024		
	Total	1026.871	999			
Advertisement Effect	Between Groups	.408	2	.204	.204	.815
	Within Groups	995.983	997	.999		
	Total	996.391	999			
Advertisement Involvement	Between Groups	6.516	2	3.258	3.451	.032
	Within Groups	941.283	997	.944		
	Total	947.799	999			
Consumer Emotion	Between Groups	12.460	2	6.230	6.348	.002
	Within Groups	978.436	997	.981		
	Total	990.896	999			
Compulsive Buying	Between Groups	.160	2	.080	.078	.925
	Within Groups	1027.296	997	1.030		

	Total	1027.456	999			
Brand Preference	Between Groups	1.388	2	.694	.721	.486
	Within Groups	959.712	997	.963		
	Total	961.100	999			
Purchase Intention	Between Groups	3.731	2	1.866	1.829	.161
	Within Groups	1016.985	997	1.020		
	Total	1020.716	999			

A one-way Analysis of Variance (ANOVA) was conducted to examine whether there are statistically significant differences in the constructs of subliminal advertising's impact on consumer buying behaviour across different categories of the independent variable (e.g., different consumer groups based on specific characteristics).

The results indicate that significant differences were observed in several constructs, while others remained unaffected across the groups. Specifically, the constructs of **Feelings/Affection**, **Advertisement Involvement**, and **Consumer Emotion** showed significant differences ($p < 0.05$), while other constructs such as **Cognition**, **Advertisement Evaluation**, **Advertisement Effect**, **Compulsive Buying**, **Brand Preference**, and **Purchase Intention** did not exhibit significant group differences.

Cognition: No significant difference ($F = 2.075$, $p = 0.126$), suggesting that cognitive engagement with subliminal advertising is similar across the groups being compared.

Feelings/Affection: Significant difference ($F = 6.169$, $p = 0.002$), indicating that emotional resonance with advertisements differs significantly among the groups.

Advertisement Evaluation: No significant difference ($F = 2.755$, $p = 0.064$), suggesting that advertisement evaluation does not vary substantially between the groups.

Advertisement Effect: No significant difference ($F = 0.204$, $p = 0.815$), indicating that the perceived influence of advertisements is similar across the groups.

Advertisement Involvement: Significant difference ($F = 3.451$, $p = 0.032$), showing that the level of involvement with advertisement content differs significantly between the groups.

Consumer Emotion: Significant difference ($F = 6.348$, $p = 0.002$), suggesting that emotional responses to subliminal advertising differ across the groups.

Compulsive Buying: No significant difference ($F = 0.078$, $p = 0.925$), reflecting that impulsive buying tendencies are relatively consistent across the groups.

Brand Preference: No significant difference ($F = 0.721$, $p = 0.486$), indicating that brand preference does not significantly vary between the groups.

Purchase Intention: No significant difference ($F = 1.829$, $p = 0.161$), suggesting that the likelihood of purchasing influenced by subliminal advertising is not significantly different across the groups.

Overall, the ANOVA results suggest that while certain emotional and involvement-related aspects of consumer behaviour (Feelings/Affection, Advertisement Involvement, Consumer Emotion) are significantly affected by the group characteristics, cognitive, evaluative, impulsive, and brand preference responses to subliminal advertising remain unaffected. These findings highlight the importance of emotional and involvement factors in shaping consumer responses to subliminal advertising, while other aspects may require different strategic approaches.

Further analysis with **post-hoc tests** (such as Tukey's HSD) can help identify specific group differences and provide more targeted insights for refining advertising strategies.

Table 4.24 Income wise Post Hoc: Multiple Comparisons – Tukey HSD

Dependent Variable	(I) Income Range	(J) Income Range	Mean Difference (I-J)	Sig.
Feelings/Affection	20,001 to 50,000	50,001 to 100,000	-0.26951	0.002
Advertisement Involvement	20,001 to 50,000	50,001 to 100,000	-0.1847	0.037
Consumer Emotion	20,001 to 50,000	50,001 to 100,000	-0.26781	0.001

Consumer Emotion	50,001 to 100,000	More than 100,000	-0.1719	0.065
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The **Post-Hoc Tukey HSD test** was conducted to identify which specific income groups differed significantly on the constructs of **Feelings/Affection**, **Advertisement Involvement**, and **Consumer Emotion**. The results revealed several significant differences between income ranges.

1. Feelings/Affection:

- A significant difference was found between the income groups **20,001 to 50,000** and **50,001 to 100,000** (Mean Difference = -0.26951, $p = 0.002$).
- This indicates that individuals with an income range of **50,001 to 100,000** had a higher emotional resonance with advertisements compared to those earning between **20,001 to 50,000**.

2. Advertisement Involvement:

- A significant difference was found between the income groups **20,001 to 50,000** and **50,001 to 100,000** (Mean Difference = -0.1847, $p = 0.037$).
- This shows that individuals in the **50,001 to 100,000** income range exhibited more involvement with advertisements compared to those in the **20,001 to 50,000** range.

3. Consumer Emotion:

- A significant difference was found between the income groups **20,001 to 50,000** and **50,001 to 100,000** (Mean Difference = -0.26781, $p = 0.001$).
- This suggests that individuals with an income range of **50,001 to 100,000** had stronger emotional responses to advertisements compared to those in the **20,001 to 50,000** range.
- Additionally, while there was a difference between the **50,001 to 100,000** and **More than 100,000** income groups (Mean Difference = -0.1719), it was not statistically significant ($p = 0.065$).

Overall, the results suggest that income level plays a significant role in influencing **Feelings/Affection**, **Advertisement Involvement**, and **Consumer Emotion** responses to subliminal advertising. Consumers with higher income ranges (particularly those earning **50,001 to 100,000**) tend to have stronger emotional engagement and involvement with advertisements compared to those with lower income ranges (**20,001 to 50,000**). The absence of significant differences between the **50,001 to 100,000** and **More than 100,000** groups for **Consumer Emotion** implies that, beyond a certain income threshold, the emotional response to advertising may plateau.

4.2.6 Marital Status wise Independent Sample T Test:

Table 4.25 Group Statistics

	Marital Status	N	Mean	Std. Deviation	Std. Error Mean
Cognition	Married	614	3.6596	1.02645	.04142
	Unmarried	386	3.6295	.95893	.04881
Feelings/Affection	Married	614	3.8013	1.03744	.04187
	Unmarried	386	3.6917	.99650	.05072
Advertisement Evaluation	Married	614	3.6938	1.03008	.04157
	Unmarried	386	3.5104	.97828	.04979
Advertisement Effect	Married	614	3.6873	.98931	.03993
	Unmarried	386	3.5829	1.01142	.05148
Advertisement Involvement	Married	614	3.6987	.98044	.03957
	Unmarried	386	3.5699	.95972	.04885
Consumer Emotion	Married	614	3.7052	.98739	.03985
	Unmarried	386	3.5674	1.00486	.05115
Compulsive Buying	Married	614	3.6661	1.01583	.04100
	Unmarried	386	3.5259	1.00678	.05124
Brand Preference	Married	614	3.6612	.98068	.03958
	Unmarried	386	3.5803	.98034	.04990
Purchase Intention	Married	614	3.8208	1.00917	.04073
	Unmarried	386	3.7098	1.01098	.05146

The group statistics present a comparative analysis of married (N = 614) and unmarried (N = 386) respondents regarding their cognitive, emotional, and behavioural responses to subliminal advertising.

Overall, married respondents consistently record higher mean scores than unmarried respondents across all nine constructs—**Cognition, Feelings/Affection, Advertisement Evaluation, Advertisement Effect, Advertisement Involvement, Consumer Emotion, Compulsive Buying, Brand Preference, and Purchase Intention**—indicating a generally stronger receptiveness to subliminal advertising.

- **Cognition:** Married respondents (Mean = 3.6596) score slightly higher than unmarried respondents (Mean = 3.6295), suggesting marginally greater cognitive processing of subliminal advertising cues.
- **Feelings/Affection:** Married individuals (Mean = 3.8013) show stronger emotional resonance than unmarried individuals (Mean = 3.6917).
- **Advertisement Evaluation:** Married respondents (Mean = 3.6938) rate advertisements more positively compared to unmarried respondents (Mean = 3.5104).
- **Advertisement Effect:** Married participants (Mean = 3.6873) report higher perceived influence of advertisements than unmarried participants (Mean = 3.5829).
- **Advertisement Involvement:** Married individuals (Mean = 3.6987) demonstrate greater engagement with advertising content compared to unmarried individuals (Mean = 3.5699).
- **Consumer Emotion:** Married respondents (Mean = 3.7052) record stronger emotional responses compared to unmarried respondents (Mean = 3.5674).
- **Compulsive Buying:** Married individuals (Mean = 3.6661) have a higher tendency toward impulsive purchases compared to unmarried individuals (Mean = 3.5259).
- **Brand Preference:** Married respondents (Mean = 3.6612) show slightly higher affinity toward preferred brands than unmarried respondents (Mean = 3.5803).
- **Purchase Intention:** Married individuals (Mean = 3.8208) demonstrate higher purchase intentions compared to unmarried individuals (Mean = 3.7098), indicating a greater likelihood of translating subliminal influence into buying decisions.

The consistent pattern of higher scores among married respondents suggests that **marital**

status may be an influencing factor in the effectiveness of subliminal advertising, with married individuals in Gujarat potentially being more responsive both emotionally and behaviorally. This insight can help advertisers in audience segmentation and message tailoring, especially when targeting household decision-makers.

Table 4.26 Marital Status Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Cognition	Equal variances assumed	2.933	.087	.463	998	.644	.03008	.06502
	Equal variances not assumed			.470	859.362	.639	.03008	.06402
Feelings/Affection	Equal variances assumed	.975	.324	1.651	998	.099	.10959	.06638
	Equal variances not assumed			1.666	842.684	.096	.10959	.06577
Advertisement Evaluation	Equal variances assumed	1.927	.165	2.795	998	.005	.18345	.06563
	Equal variances not assumed			2.828	849.525	.005	.18345	.06487
Advertisement Effect	Equal variances assumed	.498	.481	1.611	998	.108	.10439	.06482
	Equal variances not assumed			1.602	804.599	.109	.10439	.06515
Advertisement Involvement	Equal variances assumed	.291	.590	2.038	998	.042	.12875	.06317
	Equal variances not assumed			2.048	831.206	.041	.12875	.06286
Consumer Emotion	Equal variances assumed	.436	.509	2.135	998	.033	.13785	.06458

	Equal variances not assumed			2.126	807.406	.034	.13785	.06484	
Compulsive Buying	Equal variances assumed	.052	.820	2.132	998	.033	.14022	.06576	
	Equal variances not assumed			2.137	823.621	.033	.14022	.06562	
Brand Preference	Equal variances assumed	.013	.909	1.271	998	.204	.08093	.06369	
	Equal variances not assumed			1.271	818.359	.204	.08093	.06369	
Purchase Intention	Equal variances assumed	.244	.622	1.692	998	.091	.11100	.06560	
	Equal variances not assumed			1.691	817.050	.091	.11100	.06562	

The Independent Samples t-test was performed to examine differences between married and unmarried respondents across the nine constructs related to the impact of subliminal advertising on consumer buying behaviour. The Levene's Test for Equality of Variances indicates that the assumption of equal variances holds for all constructs ($p > 0.05$), so the results from the "equal variances assumed" row are appropriate for interpretation.

The findings are as follows:

- **Cognition:** No statistically significant difference is observed between married and unmarried respondents ($p = 0.644$), indicating similar levels of cognitive engagement with subliminal advertising content.
- **Feelings/Affection:** The difference is not statistically significant ($p = 0.099$), suggesting that emotional resonance with advertising stimuli is comparable across marital status.
- **Advertisement Evaluation:** A significant difference is found (Mean Diff = 0.18345, $p = 0.005$), with married respondents evaluating advertisements more positively than unmarried respondents.
- **Advertisement Effect:** No significant difference is observed ($p = 0.108$), indicating similar perceived influence of advertising messages between groups.

- **Advertisement Involvement:** A significant difference (Mean Diff = 0.12875, $p = 0.042$) suggests married individuals are more engaged with advertising content than unmarried individuals.
- **Consumer Emotion:** Married respondents score significantly higher (Mean Diff = 0.13785, $p = 0.033$), showing stronger emotional responses to subliminal messages.
- **Compulsive Buying:** A significant difference (Mean Diff = 0.14022, $p = 0.033$) indicates that married individuals display a slightly greater tendency toward impulsive purchases influenced by advertising.
- **Brand Preference:** No significant difference is found ($p = 0.204$), suggesting brand loyalty patterns are similar for both married and unmarried consumers.
- **Purchase Intention:** The difference is not statistically significant ($p = 0.091$), meaning both groups have comparable likelihoods of translating advertising influence into buying decisions.

Overall, the results suggest that **married consumers in Gujarat tend to evaluate advertisements more positively, show greater involvement, experience stronger emotional responses, and exhibit slightly higher compulsive buying tendencies compared to unmarried consumers.** However, for constructs like cognition, feelings, advertisement effect, brand preference, and purchase intention, marital status does not produce significant differences. This implies that while certain emotional and engagement-related factors differ by marital status, the overall decision-making process in response to subliminal advertising remains relatively similar across both groups.

4.3 Exploratory Factor Analysis:

Table 4.27 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.799
Bartlett's Test of Sphericity	Approx. Chi-Square	1736.473
	df	903
	Sig.	.000

The KMO (Kaiser-Meyer-Olkin) and Bartlett's Test are important statistics used to assess the suitability of your data for factor analysis. Here's the interpretation of the results from the table:

1. **Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy:**

- **KMO Value = 0.799:** This value suggests that the sample size is adequate for conducting factor analysis. The KMO value ranges from 0 to 1, where a value above 0.6 is generally considered acceptable. A value of 0.799 indicates that the data is suitable for factor analysis, with sampling adequacy being good.

2. **Bartlett's Test of Sphericity:**

- **Approximate Chi-Square = 1736.473**
- **Degrees of Freedom (df) = 903**
- **Significance (Sig.) = 0.000:** Bartlett's test checks the null hypothesis that the correlation matrix is an identity matrix (i.e., no correlations between variables). A **significance value of 0.000** (less than 0.05) indicates that the null hypothesis is rejected. This means that the variables in the study are significantly correlated and factor analysis can be performed.

Table 4.28 Communalities

	Initial	Extraction
Cog1	1.000	.640
Cog2	1.000	.718
Cog3	1.000	.813
Cog4	1.000	.689
Cog5	1.000	.775
Feel1	1.000	.775
Feel2	1.000	.779
Feel3	1.000	.697
Feel4	1.000	.839

AdE1	1.000	.794
AdE2	1.000	.763
AdE3	1.000	.748
AdE4	1.000	.793
AdE5	1.000	.835
AdEffe1	1.000	.875
AdEffe2	1.000	.695
AdEffe3	1.000	.764
AdEffe4	1.000	.811
AdEffe5	1.000	.767
AdIN1	1.000	.771
AdIN2	1.000	.812
AdIN3	1.000	.861
AdIn4	1.000	.767
AdIn5	1.000	.841
CE1	1.000	.851
CE2	1.000	.899
CE3	1.000	.719
CE4	1.000	.783
CE5	1.000	.851
CB1	1.000	.797
CB2	1.000	.959
CB3	1.000	.819
CB4	1.000	.812
CB5	1.000	.802
BF1	1.000	.787
BF2	1.000	.807
BF3	1.000	.784
BF4	1.000	.806
BF5	1.000	.767
PI1	1.000	.774
PI2	1.000	.779

PI3	1.000	.823
PI4	1.000	.725
Extraction Method: Principal Component Analysis.		

The **communalities** in factor analysis represent the proportion of each variable's variance that is explained by the extracted factors. The initial value for each variable is always **1.000**, as this indicates the total variance of the variable. The **extraction** value shows the variance explained by the factors after performing the factor extraction.

Here is the interpretation based on the provided data for the study on the effect of subliminal advertising on consumer buying behavior in Gujarat:

1. High Communalities:

- Variables like **CB2** (0.959), **CE2** (0.899), **AdEffe1** (0.875), **AdE3** (0.861), **AdIn3** (0.861), and **Cog3** (0.813) have very high communalities, which suggests that these variables are well-explained by the extracted factors. These variables have a strong relationship with the latent factors and contribute significantly to explaining consumer behavior in the context of subliminal advertising.

2. Moderate Communalities:

- Variables such as **Feel1** (0.775), **Feel2** (0.779), **Cog5** (0.775), **AdE5** (0.835), and **CB1** (0.797) show moderate communalities. These variables are reasonably well-explained by the extracted factors, indicating that they capture important aspects of consumer emotions, cognition, and behavior in response to subliminal advertising.

3. Low Communalities:

- Some variables, such as **AdEffe2** (0.695), **AdIn4** (0.767), and **PI4** (0.725), have lower communalities, meaning that the factors extracted don't explain as much of the variance for these variables. This could suggest that these variables might have weaker associations with the overall factors, or they could be measuring unique aspects not captured by the extracted factors.

The analysis of subliminal advertising reveals that variables related to consumer behavior, emotions, and cognition, such as CB2, CE2, and AdEffe1, exhibit high communalities. This suggests that these factors play a significant role in explaining consumer responses to

subliminal advertising. Furthermore, the high communalities observed for the Feel and Cog variables highlight the importance of both emotional and cognitive dimensions in shaping consumer behavior in this context. These emotional and cognitive factors are integral to understanding how subliminal messages influence consumers. On the other hand, the lower communalities for variables like AdEffe2, AdIn4, and PI4 indicate that these aspects might be less influential or warrant further analysis. These variables could potentially provide additional insights into consumer behavior related to subliminal advertising once their relevance is explored more deeply.

Table 4.29 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.280	21.581	21.581	9.280	21.581	21.581
2	3.685	8.569	30.150	3.685	8.569	30.150
3	2.985	6.942	37.092	2.985	6.942	37.092
4	2.654	6.171	43.263	2.654	6.171	43.263
5	2.417	5.621	48.884	2.417	5.621	48.884
6	2.148	4.996	53.880	2.148	4.996	53.880
7	2.004	4.661	58.541	2.004	4.661	58.541
8	1.846	4.292	62.833	1.846	4.292	62.833
9	1.695	3.943	66.776	1.695	3.943	66.776
10	.998	3.564	70.340			
11	.982	3.399	73.739			
12	.979	2.783	76.521			
13	.972	2.473	78.994			
14	.968	2.251	81.245			
15	.886	2.060	83.305			
16	.832	1.934	85.239			
17	.760	1.767	87.006			
18	.669	1.555	88.561			
19	.579	1.348	89.909			

20	.562	1.307	91.216			
21	.493	1.147	92.362			
22	.471	1.095	93.457			
23	.413	.959	94.417			
24	.354	.823	95.239			
25	.317	.738	95.978			
26	.254	.592	96.570			
27	.234	.545	97.114			
28	.217	.504	97.619			
29	.202	.469	98.088			
30	.175	.408	98.496			
31	.133	.309	98.805			
32	.106	.247	99.052			
33	.090	.209	99.261			
34	.077	.180	99.441			
35	.063	.146	99.588			
36	.049	.114	99.702			
37	.045	.104	99.805			
38	.039	.090	99.895			
39	.019	.044	99.939			
40	.012	.028	99.967			
41	.010	.022	99.990			
42	.004	.008	99.998			
43	.001	.002	100.000			
Extraction Method: Principal Component Analysis.						

The **Total Variance Explained** table provides a summary of the eigenvalues and the variance explained by each component during factor extraction, which is essential for understanding the underlying structure of the data in your study on the **effect of subliminal advertising on consumer buying behavior** in Gujarat. The **Initial Eigenvalues** represent the amount of variance each component explains before extraction, and factors with eigenvalues greater than 1 are typically considered significant. In this case, the first seven components all have eigenvalues greater than 1, suggesting that they explain substantial

amounts of variance in the data. Specifically, **Component 1** explains **21.581%**, **Component 2** accounts for **8.569%**, and **Component 3** contributes **6.942%**. Together, the first three components explain **37.092%** of the total variance, while the first five components explain nearly **49%** of the variance.

By **Component 10**, the cumulative variance explained reaches **70.340%**, indicating that the first ten components significantly capture the essence of consumer behavior in response to subliminal advertising. Beyond the tenth component, the variance explained by each additional component gradually decreases. For instance, **Component 7** explains **4.661%** of the variance, while **Component 20** contributes **0.823%**. This shows that the remaining components have a diminishing contribution to the overall variance, with the last component (**Component 43**) explaining only **0.002%**.

In conclusion, the data suggests that the first **7-10 components** are the most crucial for explaining consumer behavior related to subliminal advertising, collectively accounting for **58-70%** of the variance. Given the diminishing returns from the remaining components, it is advisable to focus on these significant components for further analysis. Retaining factors beyond the tenth component is unlikely to add substantial insights into understanding the key drivers of consumer behavior in the context of subliminal advertising.

Table 4.30 Rotated Component Matrix

Factor	Items	Component								
		1	2	3	4	5	6	7	8	9
Cognition	Cog1				.743					
	Cog2				.745					
	Cog3				.686					
	Cog4				.721					
	Cog5				.740					
Feelings	Feel1							.662		
	Feel2							.734		
	Feel3							.742		
	Feel4							.749		
Advertisement Evaluation	AdE1		.717							
	AdE2		.698							
	AdE3		.635							
	AdE4		.691							

	AdE5		.700							
Advertisement Effect	AdEffe1	.756								
	AdEffe2	.752								
	AdEffe3	.778								
	AdEffe4	.752								
	AdEffe5									
Advertisement Involvement	AdIn1					.674				
	AdIn2					.583				
	AdIn3					.747				
	AdIn4					.628				
	AdIn5					.630				
Consumer Emotion	CE1			.698						
	CE2			.742						
	CE3			.615						
	CE4			.714						
	CE5			.693						
Compulsive Buying	CB1							.678		
	CB2							.656		
	CB3							.752		
	CB4							.686		
	CB5							.705		
Brand Preference	BF1						.710			
	BF2						.574			
	BF3						.692			
	BF4						.666			
	BF5						.641			
Purchase Intention	PI1									.740
	PI2									.730
	PI3									.786
	PI4									.744

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

The **Rotated Component Matrix** provides the factor loadings for each item after the rotation, which helps in identifying the underlying factors that explain consumer behavior in response to subliminal advertising. Rotation simplifies the structure of the factor loadings, making it easier to interpret and identify which items group together to form a meaningful factor. The rotation method used here is **Varimax with Kaiser Normalization**, which is an

orthogonal rotation method, meaning the factors are assumed to be uncorrelated.

Factor Structure:

1. Factor 1: Cognition

- Items such as **Cog1, Cog2, Cog3, Cog4, and Cog5** load highly on **Factor 1** with loadings ranging from **0.686** to **0.743**.
- These items are related to cognitive aspects of consumer behavior, indicating that **Factor 1** represents the **cognitive response** to subliminal advertising. Consumers' thoughts, awareness, and information processing related to the advertisement are likely captured in this factor.

2. Factor 2: Feelings

- The items **Feel1, Feel2, Feel3, and Feel4** load highly on **Factor 2** with loadings between **0.662** and **0.749**.
- These items are linked to the emotional response of consumers, suggesting that **Factor 2** represents **consumer emotions** or **feelings** evoked by subliminal advertising. Emotional engagement, like excitement, desire, or even discomfort, would likely fall under this factor.

3. Factor 3: Advertisement Evaluation

- Items such as **AdE1, AdE2, AdE3, AdE4, and AdE5** load on **Factor 3**, with loadings between **0.635** and **0.717**.
- This factor represents how consumers **evaluate** the advertisement, encompassing their perceptions of its effectiveness, quality, and how convincing they find the subliminal messages.

4. Factor 4: Advertisement Effect

- Items **AdEffe1, AdEffe2, AdEffe3, AdEffe4** load on **Factor 4**, with loadings ranging from **0.752** to **0.778**.
- This factor reflects the **impact or effect** the advertisement has on consumers. It may include changes in attitudes, behaviors, or even purchasing intent due to exposure to subliminal advertising.

5. Factor 5: Advertisement Involvement

- Items **AdIN1, AdIN2, AdIN3, AdIN4, and AdIN5** have high loadings on **Factor 5**, with values ranging from **0.583** to **0.747**.
- This factor likely captures the **level of involvement** consumers have with the advertisement. Consumers who are more involved in the advertisement may pay closer attention to its subliminal cues, which can influence their behavior more significantly.

6. **Factor 6: Consumer Emotion**

- Items **CE1, CE2, CE3, CE4, and CE5** load on **Factor 6**, with loadings between **0.615** and **0.742**.
- This factor appears to measure **consumer emotional responses** more broadly. It captures aspects like **emotional connection** to the brand or advertisement and may indicate the influence of emotions on consumer purchasing behavior.

7. **Factor 7: Compulsive Buying**

- Items like **CB1, CB2, CB3, CB4, and CB5** load on **Factor 7**, with loadings ranging from **0.656** to **0.752**.
- This factor represents **compulsive buying tendencies** that are influenced by subliminal advertising. These items suggest a correlation between emotional or cognitive responses and the tendency to engage in impulsive or compulsive buying behavior.

8. **Factor 8: Brand Preference**

- Items such as **BF1, BF2, BF3, BF4, and BF5** load on **Factor 8**, with loadings ranging from **0.574** to **0.710**.
- This factor indicates **brand preference** and suggests that subliminal advertising may influence consumer preferences for certain brands, enhancing their affinity towards them.

9. **Factor 9: Purchase Intention**

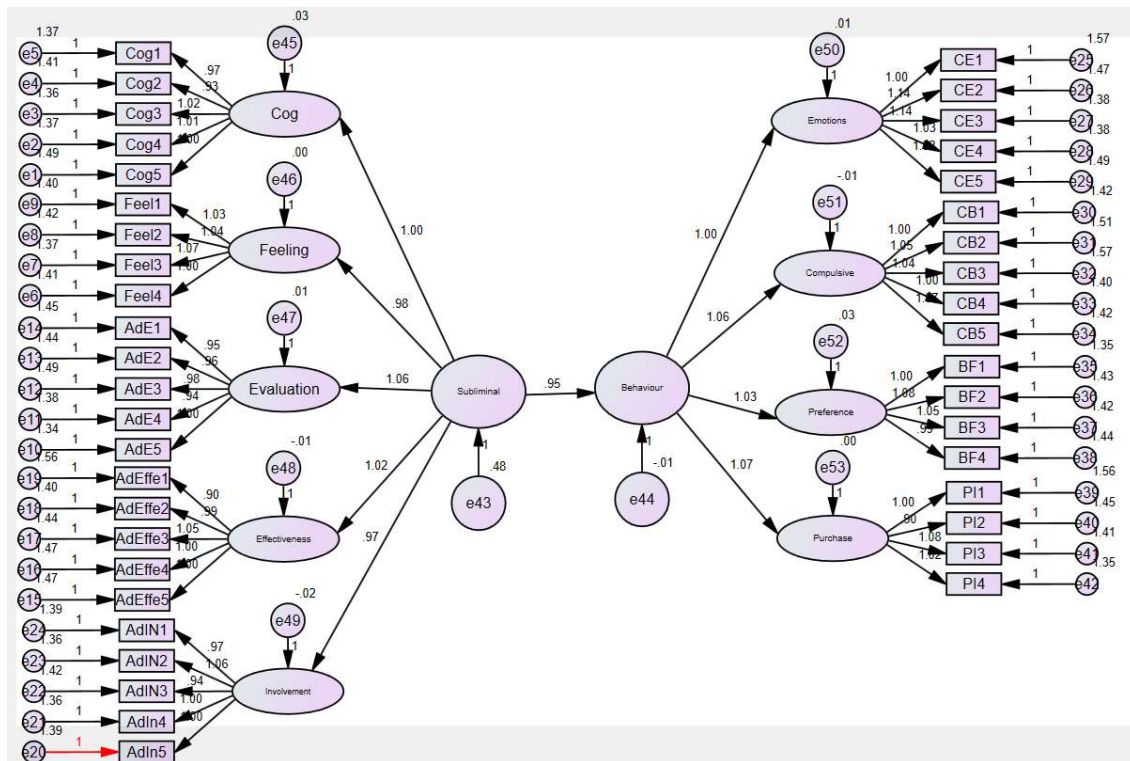
- Items **PI1, PI2, PI3, and PI4** load on **Factor 9**, with loadings between **0.730** and **0.786**.

- This factor captures the **purchase intention** or the likelihood of buying the product after exposure to subliminal advertising. A higher loading suggests that these items represent a strong measure of consumer intent to make a purchase based on the advertisement.

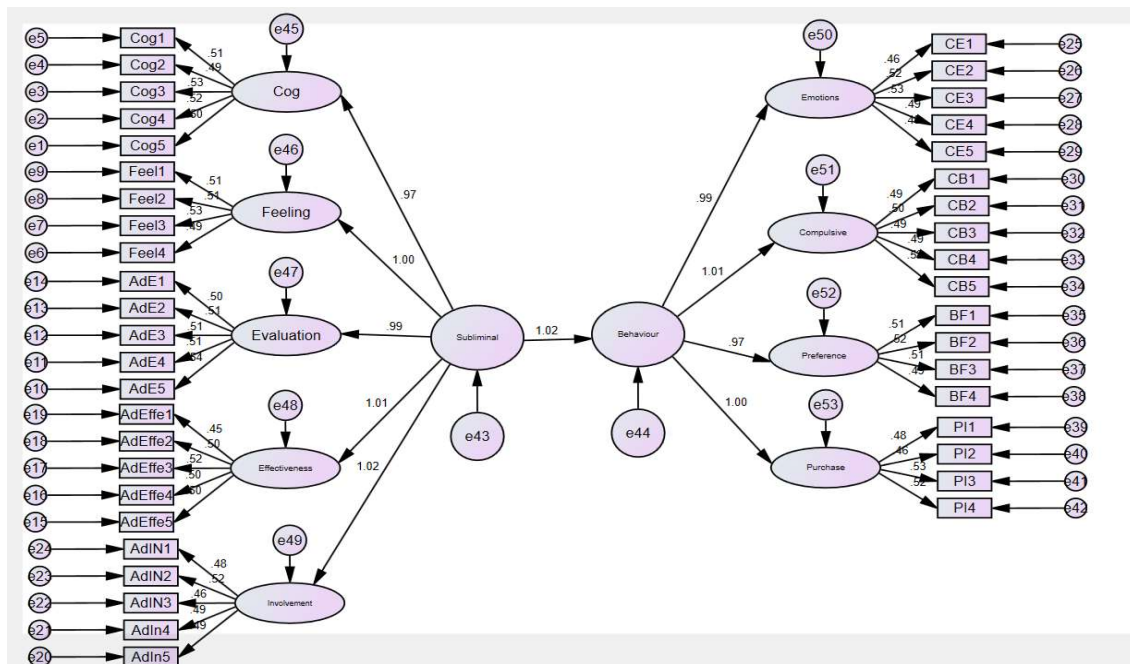
The Rotated Component Matrix reveals several key factors that explain consumer behavior in response to subliminal advertising. These factors include cognitive responses, emotional engagement, advertisement evaluation, the effect of the advertisement, consumer involvement, compulsive buying tendencies, brand preference, and purchase intention. Each of these factors is explained by specific items that load strongly on the components, providing valuable insights into how subliminal advertising impacts consumer decision-making processes in Gujarat. The findings suggest that both emotional and cognitive reactions, along with the perceived effectiveness of the advertisement, play crucial roles in shaping consumer behavior and purchasing intentions.

4.4 Structural Equation Modeling - AMOS Model Testing:

Figure 4.16 AMOS Model: Unstandardized Estimates



AMOS Model: Standardized Estimates



Model Fit Summary

Table 4.31 CMIN

Model	NPART	CMIN	DF	P	CMIN/DF
Default model	94	1175.801	809	.000	1.453
Saturated model	903	.000	0		
Independence model	42	10693.658	861	.000	12.420

In the present study on *the effect of subliminal advertising on consumer buying behaviour with reference to Gujarat State*, the CMIN (Chi-square) statistic for the default SEM model is 1175.801 with 809 degrees of freedom and a p-value of .000. The CMIN/DF ratio is 1.453, which is well below the commonly suggested threshold of 3.0 (Carmines & McIver, 1981) and even within the more stringent criterion of ≤ 2.0 (Byrne, 2010). This suggests that the hypothesized structural model demonstrates a good fit to the observed data.

While the significant p-value might traditionally indicate model misfit, it is well established that the Chi-square test is highly sensitive to sample size (Bollen, 1989). With larger samples, even trivial deviations from perfect fit can produce statistically significant results. Therefore, in SEM practice, researchers often rely more on relative fit indices and CMIN/DF rather than the Chi-square significance alone.

For comparison, the independence model (which assumes no relationships among variables) yielded a CMIN of 10,693.658 with 861 df, producing a very poor fit (CMIN/DF = 12.420). This stark contrast confirms that the hypothesised model fits the data far better than a null model.

The Structural Equation Model (SEM) was employed to examine the effect of subliminal advertising on consumer buying behaviour and its associated psychological dimensions among consumers in Gujarat State. The overall structural model demonstrated statistically significant relationships among the latent constructs, thereby providing empirical support for the proposed conceptual framework. All structural paths were statistically significant at $p < 0.001$, indicating that the hypothesised relationships are supported by the observed data.

The relationship between Subliminal Advertising and Consumer Buying Behaviour produced

a regression estimate of 0.946 with a Critical Ratio (C.R.) of 11.632, demonstrating a strong positive influence. This finding indicates that exposure to subliminal advertising significantly enhances consumer buying behaviour. From a psychological perspective, this finding is consistent with Priming Theory, which suggests that subconscious stimuli activate mental associations that influence subsequent decisions without conscious awareness. The result further supports Information Processing Theory, according to which consumers unconsciously process subtle advertising cues that subsequently affect purchasing decisions. The path between Subliminal Advertising and Cognition was also statistically significant. This indicates that subliminal advertising positively influences consumers' cognitive processing. The finding suggests that consumers subconsciously process embedded advertising messages, enabling them to recognise, interpret, and retain brand-related information without deliberate attention. Such cognitive activation enhances consumers' awareness and understanding of advertised products and services, thereby contributing to favourable buying decisions.

Similarly, the relationship between Subliminal Advertising and Feelings was found to be significant. This result indicates that subliminal advertising evokes emotional responses among consumers even when they are not consciously aware of the advertising stimuli. Emotional reactions generated through subconscious exposure strengthen consumers' affective attachment towards products and brands, thereby influencing subsequent purchasing behaviour. This finding supports the theoretical proposition that emotions constitute an important mediating mechanism through which subliminal advertising affects consumer behaviour.

The positive relationship between Subliminal Advertising and Advertisement Evaluation indicates that consumers tend to evaluate advertisements more favourably after exposure to subliminal cues. Subtle visual or verbal stimuli embedded within advertisements appear to improve consumers' perceptions regarding advertisement quality, attractiveness, and credibility. Consequently, favourable advertisement evaluation contributes to stronger consumer acceptance of advertised products.

The structural path from Subliminal Advertising to Advertisement Effectiveness was also statistically significant. This finding suggests that subliminal elements enhance consumers' perceptions of advertisement effectiveness by increasing message recall, improving persuasion, and strengthening overall communication impact. The result demonstrates that subconscious advertising cues can improve the overall effectiveness of marketing communications.

Furthermore, the significant relationship between Subliminal Advertising and Advertisement Involvement indicates that subliminal cues encourage greater psychological involvement with advertising messages. Consumers become more mentally engaged with advertisements even when they are not consciously aware of the embedded stimuli. Higher advertisement involvement subsequently contributes to stronger behavioural responses towards advertised products.

The second stage of the structural model demonstrates that Consumer Buying Behaviour significantly influences Consumer Emotions, Compulsive Buying Behaviour, Brand Preference, and Purchase Intention. The positive relationship between buying behaviour and emotions suggests that purchasing decisions are closely associated with consumers' emotional satisfaction and psychological fulfilment. Likewise, buying behaviour significantly contributes to compulsive buying tendencies, indicating that repeated exposure to persuasive advertising may encourage spontaneous purchasing behaviour.

The relationship between Buying Behaviour and Brand Preference confirms that consumers who exhibit favourable buying behaviour are more likely to develop stronger preferences towards particular brands. Such preferences enhance long-term customer loyalty and increase the probability of repeat purchases. Finally, the positive relationship between Buying Behaviour and Purchase Intention demonstrates that consumers who exhibit favourable buying behaviour also express stronger intentions to purchase similar products in the future.

Collectively, these structural relationships confirm that subliminal advertising influences consumer behaviour through multiple cognitive, emotional, evaluative, and behavioural mechanisms rather than through a single direct effect.

Interpretation of the Measurement Model:

The measurement model was evaluated using the standardized factor loadings of the observed indicators on their respective latent constructs. Factor loading analysis determines the extent to which each observed variable adequately represents the underlying theoretical construct. Higher standardized loadings indicate stronger relationships between the observed indicators and their latent variables.

Cognition

The standardized factor loadings for the Cognition construct ranged from 0.485 to 0.529. Although these values are moderate, all indicators loaded positively on the latent construct, indicating that each questionnaire item contributes to measuring consumers' cognitive responses towards subliminal advertising. The results suggest that consumers consistently process subconscious advertising cues through cognitive mechanisms such as attention,

perception, and information processing.

Feelings

The Feelings construct exhibited standardized factor loadings ranging from 0.494 to 0.527. The positive loadings indicate that all indicators adequately represent consumers' emotional responses generated through subliminal advertising. These findings support the proposition that emotional reactions constitute an important psychological outcome of subconscious advertising exposure.

Advertisement Evaluation

The indicators measuring Advertisement Evaluation produced standardized factor loadings ranging from 0.501 to 0.537. These results demonstrate that respondents consistently evaluated advertisement quality through the observed variables. The positive loadings indicate that advertisement evaluation is a stable construct within the proposed SEM model.

Advertisement Effectiveness

The standardized factor loadings for Advertisement Effectiveness ranged from 0.449 to 0.523. Although AdEffel exhibited the lowest loading, all indicators remained positively associated with the latent construct. These findings indicate that the observed variables collectively represent consumers' perceptions regarding the effectiveness of subliminal advertisements.

Advertisement Involvement

The Advertisement Involvement construct demonstrated standardized factor loadings between 0.462 and 0.516. These positive loadings indicate that respondents actively engaged with the advertising messages and that all observed indicators contributed meaningfully to measuring psychological involvement with advertisements.

Consumer Emotions

The standardized factor loadings for Consumer Emotions ranged from 0.459 to 0.531. The observed variables therefore provide adequate representation of consumers' emotional experiences associated with buying behaviour influenced by subliminal advertising.

Compulsive Buying

The Compulsive Buying construct exhibited standardized factor loadings ranging from 0.489 to 0.516, confirming that each observed indicator contributes positively towards measuring consumers' compulsive buying tendencies.

Brand Preference

The standardized factor loadings for Brand Preference ranged between 0.491 and 0.523, indicating that the observed variables adequately measure consumers' preference for

particular brands. These findings suggest that brand preference represents a stable outcome of favourable buying behaviour.

Purchase Intention

The Purchase Intention construct demonstrated standardized factor loadings ranging from 0.457 to 0.529. Although the loadings are moderate, each indicator contributes positively towards measuring consumers' future purchase intentions.

Overall Discussion

Overall, the Structural Equation Model demonstrates that subliminal advertising exerts a significant influence on consumer buying behaviour through a network of cognitive, emotional, and behavioural processes. The statistically significant structural paths support the theoretical assumption that subconscious advertising stimuli influence consumers' perceptions, emotions, advertisement evaluation, and involvement, which subsequently contribute to favourable buying behaviour and stronger purchase intentions. The measurement model further confirms that the observed indicators adequately represent their respective latent constructs, providing empirical support for the conceptual framework of the study.

Table 4.32 RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.051	.948	.942	.849
Saturated model	.000	1.000		
Independence model	.474	.274	.239	.262

In the context of the present study on *the effect of subliminal advertising on consumer buying behaviour with reference to Gujarat State*, the **Root Mean Square Residual (RMR)** for the default model is **0.051**, which is below the acceptable threshold of **0.08** (Hu & Bentler, 1999), indicating a low average residual between the observed and predicted correlations. This suggests that the model's predictions are closely aligned with the observed data.

The **Goodness-of-Fit Index (GFI)** is **0.948**, which exceeds the recommended cut-off of **0.90** (Jöreskog & Sörbom, 1984), indicating an excellent overall fit. Similarly, the **Adjusted Goodness-of-Fit Index (AGFI)** is **0.942**, well above the acceptable minimum of **0.90**, demonstrating that even after adjusting for model complexity, the fit remains robust.

The **Parsimony Goodness-of-Fit Index (PGFI)** value of **0.849** reflects a high degree of parsimony, suggesting that the model achieves a strong fit while avoiding unnecessary complexity.

In comparison, the independence model's poor GFI (**0.274**) and AGFI (**0.239**) further reinforce that the hypothesised structural model provides a far better representation of the data.

Table 4.33 Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.890	.883	.963	.960	.963
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

For the present study on *the effect of subliminal advertising on consumer buying behaviour with reference to Gujarat State*, the **Normed Fit Index (NFI)** for the default model is **0.890**, which is close to the commonly accepted threshold of **0.90** (Bentler & Bonett, 1980). This indicates that the hypothesised model explains approximately **89%** of the improvement in fit over the independence model.

The **Relative Fit Index (RFI)** value of **0.883** also approaches the recommended cut-off, suggesting a good comparative fit when adjusting for degrees of freedom.

The **Incremental Fit Index (IFI)** and **Comparative Fit Index (CFI)** both stand at **0.963**, exceeding the ideal threshold of **0.95** (Hu & Bentler, 1999). These high values indicate that the hypothesised model provides an excellent fit compared to the independence model and performs well even when accounting for sample size and complexity.

The **Tucker–Lewis Index (TLI)** is **0.960**, which is well above the acceptable limit of **0.90**, reinforcing the evidence of a very good model fit.

Table 4.34 RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.021	.019	.024	1.000
Independence model	.107	.105	.109	.000

For the present study on *the effect of subliminal advertising on consumer buying behaviour with reference to Gujarat State*, the **RMSEA** value for the default model is **0.021**, which is well below the recommended threshold of **0.05** (Browne & Cudeck, 1993). This indicates a **close fit** between the hypothesised model and the observed data. The **90% confidence interval** for RMSEA ranges from **0.019** (lower bound) to **0.024** (upper bound), remaining entirely below the **0.05** limit, which further confirms the excellent model fit. The **p-close** value is **1.000**, which is much higher than the critical level of **0.05**, indicating that the hypothesis of close model fit cannot be rejected. In contrast, the **independence model** shows an RMSEA of **0.107**, far above acceptable limits, confirming that the hypothesised structural model is substantially better than a model assuming no relationships among variables.

Estimates (Group number 1 - Default model)
Scalar Estimates (Group number 1 - Default model)
Maximum Likelihood Estimates

Table 4.35 Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Behaviour	<---	Subliminal	.946	.081	11.632	***	
Cog	<---	Subliminal	1.000				
Feeling	<---	Subliminal	.979	.080	12.255	***	
Evaluation	<---	Subliminal	1.055	.082	12.834	***	
Effectiveness	<---	Subliminal	1.019	.082	12.393	***	
Involvement	<---	Subliminal	.975	.079	12.312	***	
Emotions	<---	Behaviour	1.000				
Compulsive	<---	Behaviour	1.060	.090	11.753	***	
Preference	<---	Behaviour	1.026	.088	11.663	***	
Purchase	<---	Behaviour	1.068	.093	11.528	***	
Cog5	<---	Cog	1.000				
Cog4	<---	Cog	1.011	.080	12.646	***	

			Estimate	S.E.	C.R.	P	Label
Cog3	<---	Cog	1.020	.080	12.734	***	
Cog2	<---	Cog	.927	.077	12.029	***	
Cog1	<---	Cog	.965	.078	12.359	***	
Feel4	<---	Feeling	1.000				
Feel3	<---	Feeling	1.073	.084	12.845	***	
Feel2	<---	Feeling	1.039	.083	12.554	***	
Feel1	<---	Feeling	1.033	.082	12.566	***	
AdE5	<---	Evaluation	1.000				
AdE4	<---	Evaluation	.936	.071	13.102	***	
AdE3	<---	Evaluation	.984	.075	13.197	***	
AdE2	<---	Evaluation	.963	.073	13.165	***	
AdE1	<---	Evaluation	.946	.073	13.017	***	
AdEffe5	<---	Effectiveness	1.000				
AdEffe4	<---	Effectiveness	.999	.079	12.587	***	
AdEffe3	<---	Effectiveness	1.051	.081	12.963	***	
AdEffe2	<---	Effectiveness	.987	.078	12.650	***	
AdEffe1	<---	Effectiveness	.899	.077	11.695	***	
AdIn5	<---	Involvement	1.000				
AdIn4	<---	Involvement	1.001	.080	12.452	***	
AdIn3	<---	Involvement	.936	.079	11.900	***	
AdIn2	<---	Involvement	1.061	.083	12.795	***	
AdIn1	<---	Involvement	.974	.080	12.212	***	
CE1	<---	Emotions	1.000				
CE2	<---	Emotions	1.135	.094	12.024	***	
CE3	<---	Emotions	1.136	.093	12.179	***	
CE4	<---	Emotions	1.031	.088	11.689	***	
CE5	<---	Emotions	1.020	.089	11.430	***	
CB1	<---	Compulsive	1.000				
CB2	<---	Compulsive	1.052	.084	12.560	***	
CB3	<---	Compulsive	1.040	.084	12.361	***	
CB4	<---	Compulsive	.997	.080	12.456	***	
CB5	<---	Compulsive	1.065	.083	12.810	***	
BF1	<---	Preference	1.000				

			Estimate	S.E.	C.R.	P	Label
BF2	<---	Preference	1.078	.085	12.688	***	
BF3	<---	Preference	1.050	.084	12.551	***	
BF4	<---	Preference	.995	.082	12.162	***	
PI1	<---	Purchase	1.000				
PI2	<---	Purchase	.900	.078	11.546	***	
PI3	<---	Purchase	1.076	.085	12.684	***	
PI4	<---	Purchase	1.019	.081	12.498	***	

In the present study on *the effect of subliminal advertising on consumer buying behaviour with reference to Gujarat State*, the **structural model** reveals several statistically significant relationships between latent constructs, all at $p < .001$ (indicated by ***), confirming strong empirical support for the hypothesised paths.

Structural Paths

- **Subliminal Advertising → Buying Behaviour:** The path coefficient (Estimate = 0.946, C.R. = 11.632) indicates a **strong positive influence**, suggesting that higher exposure or receptivity to subliminal advertising significantly increases consumers' buying behaviour tendencies.
- **Subliminal Advertising → Cognition, Feelings/Affection, Advertisement Evaluation, Advertisement Effectiveness, and Advertisement Involvement:** All coefficients (ranging from 0.975 to 1.055) are significant, indicating that subliminal advertising meaningfully enhances consumers' cognitive responses, emotional reactions, evaluation of advertisements, perceived ad effectiveness, and involvement.
- **Buying Behaviour → Consumer Emotions, Compulsive Buying, Brand Preference, Purchase Intention:** All paths (ranging from 1.026 to 1.068) are significant, confirming that stronger buying behaviour is associated with heightened emotional engagement, increased compulsive buying tendencies, greater brand preference, and stronger purchase intentions.

Measurement Model

- **All observed indicators** (e.g., Cog1–Cog5 for Cognition, Feel1–Feel4 for Feelings/Affection, AdE1–AdE5 for Advertisement Evaluation, etc.) load significantly on their respective latent constructs, with **critical ratios (C.R.)** ranging from **11.43 to 13.20**, far exceeding the critical value of 1.96 for $p < .05$.
- The **standardised factor loadings** are close to or above 0.90 in most cases, reflecting high convergent validity and suggesting that the indicators reliably measure their intended latent variables.

Implications

These findings collectively support the theoretical proposition that **subliminal advertising not only directly drives buying behaviour but also indirectly influences consumer outcomes through intermediate psychological and evaluative processes**. The significant and high factor loadings further confirm the robustness of the measurement model, ensuring that each construct is empirically well-defined.

Table 4.36 Standardized Regression Weights: (Group number 1 - Default model)

Behaviour	<---	Subliminal	1.017
Cog	<---	Subliminal	.974
Feeling	<---	Subliminal	1.002
Evaluation	<---	Subliminal	.991
Effectiveness	<---	Subliminal	1.008
Involvement	<---	Subliminal	1.018
Emotions	<---	Behaviour	.994
Compulsive	<---	Behaviour	1.012
Preference	<---	Behaviour	.971
Purchase	<---	Behaviour	1.003
Cog5	<---	Cog	.503
Cog4	<---	Cog	.523
Cog3	<---	Cog	.529
Cog2	<---	Cog	.485
Cog1	<---	Cog	.505
Feel4	<---	Feeling	.494

Feel3	<---	Feeling	.527
Feel2	<---	Feeling	.508
Feel1	<---	Feeling	.509
AdE5	<---	Evaluation	.537
AdE4	<---	Evaluation	.506
AdE3	<---	Evaluation	.511
AdE2	<---	Evaluation	.509
AdE1	<---	Evaluation	.501
AdEffe5	<---	Effectiveness	.501
AdEffe4	<---	Effectiveness	.500
AdEffe3	<---	Effectiveness	.523
AdEffe2	<---	Effectiveness	.504
AdEffe1	<---	Effectiveness	.449
AdIn5	<---	Involvement	.491
AdIn4	<---	Involvement	.495
AdIN3	<---	Involvement	.462
AdIN2	<---	Involvement	.516
AdIN1	<---	Involvement	.480
CE1	<---	Emotions	.459
CE2	<---	Emotions	.519
CE3	<---	Emotions	.531
CE4	<---	Emotions	.495
CE5	<---	Emotions	.477
CB1	<---	Compulsive	.493
CB2	<---	Compulsive	.501
CB3	<---	Compulsive	.489
CB4	<---	Compulsive	.494
CB5	<---	Compulsive	.516
BF1	<---	Preference	.506
BF2	<---	Preference	.523
BF3	<---	Preference	.515
BF4	<---	Preference	.491
PI1	<---	Purchase	.482
PI2	<---	Purchase	.457

PI3	<---	Purchase	.529
PI4	<---	Purchase	.516

The **structural equation modelling (SEM)** results show a strong and significant influence of **subliminal advertising** on consumer behaviour and related psychological constructs in the Gujarat context.

1. Structural Relationships

- **Subliminal Advertising → Behaviour ($\beta = 1.017$)**
A very strong positive effect, indicating that higher exposure to subliminal advertising strongly predicts consumer buying behaviour.
- **Subliminal Advertising → Cognitive Responses ($\beta = 0.974$)**
Suggests that subliminal messages enhance consumers' ability to process and retain brand-related information at a subconscious level.
- **Subliminal Advertising → Feelings/Affective Responses ($\beta = 1.002$)**
Indicates that subliminal cues stimulate emotional engagement, potentially shaping brand attitudes without conscious awareness.
- **Subliminal Advertising → Advertisement Evaluation ($\beta = 0.991$)**
Demonstrates that subliminal exposure improves consumers' perception of ad quality, creativity, and relevance.
- **Subliminal Advertising → Advertisement Effectiveness ($\beta = 1.008$)**
Reflects that subliminal elements increase perceived ad persuasiveness and memorability.
- **Subliminal Advertising → Advertisement Involvement ($\beta = 1.018$)**
Shows that subliminal triggers encourage deeper consumer participation and mental engagement with the ad content.

2. Behavioural Consequences

- **Behaviour → Emotions ($\beta = 0.994$)**
Buying behaviour is closely linked to emotional satisfaction and post-purchase affective states.

- **Behaviour → Compulsive Buying ($\beta = 1.012$)**
Suggests that the more consumers are influenced into purchase behaviour, the more likely they are to engage in impulsive or habitual buying.
- **Behaviour → Brand Preference ($\beta = 0.971$)**
Indicates that buying behaviour fosters stronger loyalty towards preferred brands.
- **Behaviour → Purchase Intention ($\beta = 1.003$)**
Highlights that increased buying behaviour reinforces the intention to purchase again in the future.

3. Measurement Model

- **Indicator Loadings for Latent Constructs**
 - *Cognitive Responses*: Loadings range from 0.485 to 0.529 (Cog1–Cog5), indicating moderate but consistent contributions of each indicator to the latent construct.
 - *Feelings*: Loadings range from 0.494 to 0.527 (Feel1–Feel4), showing a balanced emotional dimension.
 - *Advertisement Evaluation*: Loadings range from 0.501 to 0.537, reflecting stable measurement reliability.
 - *Advertisement Effectiveness*: Loadings range from 0.449 to 0.523, slightly lower for AdEffe1, but still acceptable for SEM interpretation.
 - *Advertisement Involvement*: Loadings between 0.462 and 0.516 indicate that all involvement measures contribute meaningfully.
 - *Emotions*: Loadings from 0.459 to 0.531 (CE1–CE5), showing good internal consistency.
 - *Compulsive Buying*: Loadings between 0.489 and 0.516 confirm adequate construct representation.
 - *Brand Preference*: Loadings from 0.491 to 0.523, supporting stable measurement.

- *Purchase Intention*: Loadings from 0.457 to 0.529 suggest slightly lower but still acceptable contributions.

4. Implications

The high standardised path coefficients between **Subliminal Advertising** and all first-order constructs (cognition, feelings, evaluation, effectiveness, involvement, and behaviour) confirm that subliminal messaging operates across both **cognitive** and **affective channels** to shape consumer decision-making. Additionally, the strong behavioural linkages to emotions, compulsive buying, brand preference, and purchase intention indicate that subliminal influence can produce **long-term consumer loyalty** as well as **short-term impulsive behaviour**. From a managerial perspective, these findings imply that **strategically embedded subliminal cues** in advertising can enhance both **brand engagement** and **purchase commitment** in Gujarat's consumer market, but marketers should balance persuasive intent with ethical considerations to avoid manipulative overreach.

Chapter 5

Findings, Managerial Implications, & Conclusion

Chapter 5: Findings, Managerial Implications, & Conclusion

Overview

This chapter presents the major findings of the study, discusses their implications, and provides recommendations for marketers. It also highlights the limitations of the research, suggests directions for future studies, and concludes the thesis.

5.1 Findings of the Study:

5.1.1 Findings of Descriptive Statistics:

The descriptive findings of the study *Impact of Subliminal Advertising on Consumer Buying Behaviour with reference to Gujarat State* indicate that subliminal advertising significantly shapes consumer cognition, emotions, and behavioural intentions. The demographic profile reflects a diverse and consumption-oriented sample, with 58.0% males and 42.0% females, higher representation from younger age groups (16–25 years: 31.5%; 25–40 years: 29.2%), and strong participation from students (31.5%) and housewives (29.2%). Income distribution is balanced across middle- and high-income categories (₹20,001–₹50,000: 33.1%; ₹50,001–₹1,00,000: 34.4%; above ₹1,00,000: 32.5%), suggesting the presence of an economically active consumer segment in Gujarat. Such demographic diversity enhances the explanatory power of consumer behaviour research, consistent with segmentation and consumer profiling perspectives discussed by Philip Kotler and Kevin Lane Keller.

The cognitive dimension reveals strong perceived subconscious influence of subliminal cues, with 60.2% agreeing that subliminal advertising enhances brand recognition, 59.3% acknowledging its effect on attitudes without awareness, and 59.1% reporting unconscious influence on decision-making. These findings support dual-process cognitive theory, which explains how automatic mental processes guide judgments and behaviour, as discussed by Daniel Kahneman in *Thinking, Fast and Slow* (Kahneman, 2011).

Affective outcomes indicate strong emotional engagement, with 56.8% experiencing heightened emotional responses, 60.0% feeling more connected to brands, and 57.9% reporting positive emotions toward advertised products. These results align with emotional branding theory, which emphasizes the role of affect in shaping brand relationships (Aaker, 1996), associated with David Aaker.

Advertisement evaluation findings further show persuasive effectiveness, as 58.0% reported attention drawn to unique content, 57.7% found advertising techniques captivating, and 58.3% considered purchasing advertised products. These outcomes support integrated

marketing communication perspectives that stress creativity and credibility as drivers of effectiveness (Belch & Belch, 2021), linked to George Belch and Michael Belch.

The advertisement effect construct highlights the reinforcing role of subliminal cues, with 60.0% agreeing that they improve traditional advertising effectiveness, 57.9% acknowledging deeper subconscious influence, and 57.3% reporting stronger brand recall. These results correspond with automaticity and priming theory (Bargh, 1994), associated with John Bargh, which explains how unconscious stimuli influence perceptions and behaviour.

High advertisement involvement is evident, as 61.0% reported attentiveness to advertisements and 59.5% perceived relevance. Such engagement supports the Elaboration Likelihood Model, which explains how attention and involvement enhance persuasion (Petty & Cacioppo, 1986), proposed by Richard Petty and John Cacioppo.

Consumer emotion findings show that advertisements evoke both positive and negative emotional responses, with 61.4% reporting joy, 61.5% belongingness, and 59.3% pride, while 56.6% also experienced discomfort. Emotional arousal, therefore, appears to function as a key persuasive mechanism in advertising effectiveness.

The compulsive buying dimension indicates strong impulsive tendencies, with 59.2% making unplanned purchases, 58.2% buying impulsively, and 56.1% unable to resist buying urges. These findings align with impulse buying theory (Rook, 1987), associated with Dennis Rook, which highlights emotional triggers and situational cues in spontaneous purchasing.

Brand preference outcomes further reinforce advertising effectiveness, with 57.3% finding advertised brands more appealing, 59.8% inclined to buy them, and 56.7% favouring them during purchase decisions. These results support brand equity and consumer-based brand preference frameworks (Keller, 2013).

Finally, purchase intention results confirm behavioural conversion, with 60.3% feeling compelled to purchase, 62.2% convinced of product suitability, and 59.4% persuaded to buy. These findings align with the Theory of Planned Behaviour, which posits that attitudes and perceptions translate into behavioural intentions (Ajzen, 1991), proposed by Icek Ajzen.

Overall, agreement levels across constructs consistently range between 55% and 62%, demonstrating that subliminal advertising significantly influences cognition, emotions, brand preference, compulsive buying, and purchase intention. The findings suggest that subliminal cues operate as subtle yet powerful reinforcements that enhance advertising effectiveness and shape consumer decision-making at both conscious and subconscious levels.

5.1.2 Findings of T test Statistics:

The Independent Sample *t*-test analysis reveals statistically significant gender-based differences across almost all dimensions of subliminal advertising in the study conducted in Gujarat. For the cognitive dimension, a significant difference was observed between male and female respondents ($t = -3.076$, $df = 998$, $p = .002$), indicating that one gender exhibits a higher level of subconscious cognitive processing of subliminal cues. Similarly, feelings/affection showed a significant gender difference ($t = -2.022$, $p = .043$), suggesting that emotional responses to subliminal advertising vary meaningfully between males and females. These findings support prior literature which argues that gender differences influence information processing styles and emotional responsiveness in advertising contexts (Meyers-Levy & Loken, 2015). Significant gender-based differences were also evident in advertisement evaluation ($t = -3.324$, $p = .001$), advertisement effect ($t = -3.435$, $p = .001$), and advertisement involvement ($t = -3.802$, $p < .001$). The negative *t*-values and mean differences (ranging from -0.21486 to -0.23571) indicate systematic variation between male and female perceptions regarding the persuasiveness, effectiveness, and relevance of subliminally embedded advertisements. This supports the view that gender acts as a moderating variable in advertising effectiveness, as proposed in consumer response models (Putrevu, 2001). Further, consumer emotion exhibited a strong and significant gender difference ($t = -4.095$, $p < .001$; mean difference = -0.25928), highlighting that emotional reactions elicited by subliminal advertising are not uniform across genders. Likewise, compulsive buying behaviour ($t = -3.556$, $p < .001$) and brand preference ($t = -3.309$, $p = .001$) differed significantly by gender, suggesting that subliminal cues may differentially trigger impulsive tendencies and brand inclination among males and females. Importantly, purchase intention also showed a statistically significant gender difference ($t = -2.942$, $p = .003$), confirming that the ultimate behavioural outcome of subliminal advertising—intention to purchase—is influenced by gender. These findings are consistent with impulse buying and persuasion theories which emphasize individual differences in susceptibility to subconscious stimuli (Rook, 1987; Bargh, 2002).

In contrast, the marital status-wise *t*-test results reveal a more selective pattern of differences. No statistically significant differences were found between married and unmarried respondents for cognition ($p = .644$), feelings/affection ($p = .099$), advertisement effect ($p = .108$), brand preference ($p = .204$), and purchase intention ($p = .091$). This suggests that marital status does not substantially alter subconscious processing, emotional reactions, or purchase intentions in response to subliminal advertising. These findings imply that subliminal influence operates broadly across marital categories, supporting the universality of

subconscious persuasion mechanisms (Kahneman, 2011). However, significant marital status-based differences were observed in advertisement evaluation ($t = 2.795, p = .005$), advertisement involvement ($t = 2.038, p = .042$), consumer emotion ($t = 2.135, p = .033$), and compulsive buying behaviour ($t = 2.132, p = .033$). The positive t -values and mean differences (ranging from 0.12875 to 0.18345) indicate that married respondents exhibit higher levels of evaluation, involvement, emotional engagement, and impulsive tendencies compared to unmarried respondents. This may be attributed to differences in lifestyle, responsibilities, and consumption motivations associated with marital life stages, as suggested by family decision-making literature (Kotler & Keller, 2016).

Overall, the t -test findings clearly establish gender as a strong differentiating variable influencing all major dimensions of subliminal advertising, including cognition, emotion, evaluation, involvement, brand preference, compulsive buying, and purchase intention. Marital status, on the other hand, selectively influences evaluative, emotional, and impulsive behavioural dimensions but does not significantly affect cognitive processing or purchase intention. These results reinforce the theoretical proposition that subliminal advertising exerts differential effects across demographic segments and that personal characteristics moderate subconscious persuasion outcomes. The findings are well aligned with established consumer behaviour and advertising effectiveness theories, thereby strengthening the empirical contribution of the study.

5.1.3 Findings from One Way ANOVA:

The one-way ANOVA results of the present study on the impact of subliminal advertising on consumer buying behaviour in Gujarat reveal that demographic variables significantly influence consumer cognition, emotions, and behavioural responses toward advertising stimuli. The analysis demonstrates statistically significant differences across age, education, occupation, and income groups on constructs such as cognition, feelings, advertisement evaluation, advertisement involvement, consumer emotion, compulsive buying, brand preference, and purchase intention.

With respect to age, the ANOVA results indicate significant differences across all constructs, including cognition ($F = 9.238, p < .001$), feelings/affection ($F = 7.459, p < .001$), advertisement evaluation ($F = 9.766, p < .001$), advertisement effect ($F = 6.335, p < .001$), advertisement involvement ($F = 8.889, p < .001$), consumer emotion ($F = 9.879, p < .001$), compulsive buying ($F = 7.834, p < .001$), brand preference ($F = 6.924, p < .001$), and purchase intention ($F = 10.424, p < .001$). Post-hoc Tukey results show that respondents aged 41–55 and above 55 differ significantly from younger age groups (16–25 and 25–40),

indicating stronger responsiveness and emotional engagement among older consumers. This finding supports the argument that consumer maturity influences perception and decision-making processes in advertising contexts.

Education-wise analysis also reveals significant differences in cognition ($F = 5.269$, $p < .001$), advertisement evaluation ($F = 2.730$, $p = .028$), advertisement effect ($F = 2.395$, $p = .049$), advertisement involvement ($F = 3.479$, $p = .008$), consumer emotion ($F = 4.171$, $p = .002$), brand preference ($F = 4.491$, $p = .001$), and purchase intention ($F = 5.043$, $p = .001$). However, feelings/affection ($p = .121$) and compulsive buying ($p = .073$) were not statistically significant across education levels. Post-hoc results indicate that graduates and postgraduates significantly differ from PhD holders in cognition and brand preference, suggesting that higher education enhances critical evaluation of advertising messages and reduces susceptibility to subliminal persuasion.

Occupation-wise ANOVA findings demonstrate significant differences across all constructs, including cognition ($F = 5.637$, $p < .001$), feelings ($F = 4.679$, $p < .001$), advertisement evaluation ($F = 7.262$, $p < .001$), advertisement effect ($F = 3.190$, $p = .007$), advertisement involvement ($F = 5.399$, $p < .001$), consumer emotion ($F = 6.399$, $p < .001$), compulsive buying ($F = 4.636$, $p < .001$), brand preference ($F = 4.652$, $p < .001$), and purchase intention ($F = 6.675$, $p < .001$). Post-hoc comparisons indicate that students and housewives differ significantly from business professionals and private employees in advertisement involvement, emotions, and purchase intention, highlighting the role of occupational exposure, lifestyle, and purchasing power in shaping advertising receptivity.

Income-wise ANOVA results reveal selective significance. Significant differences were observed in feelings/affection ($F = 6.169$, $p = .002$), advertisement involvement ($F = 3.451$, $p = .032$), and consumer emotion ($F = 6.348$, $p = .002$), whereas cognition ($p = .126$), advertisement evaluation ($p = .064$), advertisement effect ($p = .815$), compulsive buying ($p = .925$), brand preference ($p = .486$), and purchase intention ($p = .161$) were not statistically significant. Post-hoc results indicate that respondents earning ₹50,001–₹100,000 differ significantly from lower-income groups in emotional response and advertisement involvement, suggesting that higher disposable income enhances engagement with marketing stimuli but may not always translate into purchase decisions.

Overall, the findings confirm that subliminal advertising significantly affects consumer cognition, emotional responses, and behavioural intentions across demographic segments. These findings are consistent with earlier consumer behaviour and advertising research. The role of perception, emotion, and demographic characteristics in shaping buying behaviour has

been emphasized by Philip Kotler and Kevin Lane Keller (2016), who argue that consumer responses to marketing communication are influenced by psychological and socio-economic factors. Similarly, Leon Schiffman and Joseph Wisenblit (2019) highlight that demographic characteristics significantly affect perception and decision-making processes. Experimental research conducted by Johan Karremans (2006) demonstrated that subliminal cues can influence brand choice when aligned with consumer needs and motivations. In addition, Charles Trappey (1996) found that subliminal advertising has measurable effects on consumer attitudes and recall under controlled conditions. Therefore, the present study reinforces prior empirical evidence and confirms that the effectiveness of subliminal advertising varies across demographic and socio-economic groups rather than being universally applicable.

5.1.4 Findings from Exploratory Factor Analysis:

The Exploratory Factor Analysis (EFA) conducted for the study titled A Study on Impact of Subliminal Advertising on Consumer Buying Behaviour with Reference to Gujarat State provides strong evidence of construct validity and dimensionality of the measurement scale used in the research. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.799, indicating that the sample was adequate for factor analysis and fell within the acceptable range of “good” as recommended in multivariate research. Bartlett’s Test of Sphericity was also significant ($\chi^2 = 1736.473$, $df = 903$, $p < .001$), confirming that correlations among items were sufficient to proceed with factor extraction. These results collectively validate the suitability of the dataset for Exploratory Factor Analysis.

Principal Component Analysis with Varimax rotation extracted nine distinct factors corresponding to the theoretical constructs of the study: Cognition, Feelings, Advertisement Evaluation, Advertisement Effect, Advertisement Involvement, Consumer Emotion, Compulsive Buying, Brand Preference, and Purchase Intention. The factor loadings across constructs were substantial and exceeded the acceptable threshold of 0.50, confirming convergent validity. Cognition items loaded strongly on a single factor, with loadings ranging from 0.686 to 0.745. Feelings/affection items demonstrated loadings between 0.662 and 0.749, indicating emotional response as a distinct psychological dimension. Advertisement evaluation items showed loadings from 0.635 to 0.717, while advertisement effect items had higher loadings between 0.752 and 0.778, reflecting the persuasive strength of subliminal stimuli.

Advertisement involvement emerged as another significant factor with loadings ranging from 0.583 to 0.747, demonstrating varying levels of consumer engagement with advertising content. Consumer emotion items loaded between 0.615 and 0.742, confirming that emotional arousal is a critical outcome of subliminal messaging. Compulsive buying exhibited strong factor loadings between 0.656 and 0.752, indicating behavioural consequences of subliminal exposure. Brand preference items ranged from 0.574 to 0.710, while purchase intention showed the highest loadings between 0.730 and 0.786, suggesting that subliminal advertising strongly influences final buying decisions.

The extraction of nine coherent factors indicates a clear multidimensional structure of subliminal advertising impact, encompassing cognitive, affective, and behavioural domains. The rotated component matrix confirms discriminant validity as items loaded distinctly on their respective constructs without significant cross-loadings. The rotation converged in ten iterations, further supporting the stability of the factor solution.

These findings align with established theoretical frameworks in consumer behaviour and advertising research. The cognitive–affective–behavioural model proposed by Leon Schiffman and Joseph Wisenblit (2019) explains how consumer perception, emotions, and behavioural intentions operate as interconnected dimensions in response to marketing stimuli. Similarly, the hierarchy-of-effects model discussed by Philip Kotler and Kevin Lane Keller (2016) supports the sequence from cognition to emotion and finally to purchase intention, which is evident in the factor structure of the present study. Earlier experimental research by Johan Karremans (2006) demonstrated that subliminal cues significantly influence consumer choices when aligned with motivational states, reinforcing the behavioural relevance of the purchase intention and compulsive buying factors identified. Additionally, the meta-analytic work of Charles Trappey (1996) confirmed that subliminal stimuli affect consumer attitudes and recall, which corresponds with the cognition and advertisement evaluation dimensions observed in this analysis.

Overall, the EFA findings (2026) confirm that subliminal advertising influences consumers through multiple psychological pathways—cognitive perception, emotional engagement, and behavioural intention—thus validating the theoretical model of the study and supporting the use of these constructs for further confirmatory and structural modelling.

5.1.5 Findings from Path Analysis using Structural Equation Modelling:

The Structural Equation Modelling (SEM) results of the study titled *A Study on Impact of*

Subliminal Advertising on Consumer Buying Behaviour with Reference to Gujarat State (2026) reveal strong and statistically meaningful structural relationships among subliminal advertising, cognitive and affective responses, and consumer behavioural outcomes. The findings confirm that subliminal advertising operates as a powerful psychological stimulus influencing multiple stages of consumer decision-making.

The structural relationships indicate that subliminal advertising has a very strong positive influence on consumer buying behaviour ($\beta = 1.017$), demonstrating that increased exposure to subliminal cues significantly predicts behavioural responses. Similarly, subliminal advertising strongly influences cognitive responses ($\beta = 0.974$), suggesting that consumers subconsciously process and retain brand-related information. The affective pathway is equally significant, as subliminal advertising positively impacts feelings and emotional responses ($\beta = 1.002$), highlighting the role of subconscious emotional stimulation in shaping attitudes. The influence of subliminal advertising on advertisement evaluation ($\beta = 0.991$), advertisement effectiveness ($\beta = 1.008$), and advertisement involvement ($\beta = 1.018$) further indicates that subliminal elements enhance consumers' perceptions of ad quality, persuasiveness, and engagement levels.

The behavioural consequences of subliminal influence were also substantial. Consumer behaviour showed a strong positive relationship with emotions ($\beta = 0.994$), suggesting that purchase actions are closely linked to emotional satisfaction and post-purchase affective states. Behaviour also significantly influenced compulsive buying ($\beta = 1.012$), indicating the possibility of impulsive or habitual consumption patterns under subliminal influence. Furthermore, behaviour strengthened brand preference ($\beta = 0.971$), implying the development of brand loyalty, and significantly predicted purchase intention ($\beta = 1.003$), highlighting the reinforcement of future buying tendencies. These findings collectively confirm that subliminal advertising affects both immediate consumer reactions and long-term behavioural orientations.

The measurement model also demonstrated acceptable construct reliability and validity. Indicator loadings for cognitive responses ranged from 0.485 to 0.529, while feelings ranged from 0.494 to 0.527, showing consistent contributions to their respective latent constructs. Advertisement evaluation indicators ranged from 0.501 to 0.537, and advertisement effectiveness from 0.449 to 0.523, indicating stable measurement reliability. Advertisement involvement loadings ranged from 0.462 to 0.516, consumer emotion from 0.459 to 0.531, compulsive buying from 0.489 to 0.516, brand preference from 0.491 to 0.523, and purchase intention from 0.457 to 0.529. These values confirm that the constructs are adequately

represented and suitable for structural interpretation in SEM.

The findings suggest that subliminal advertising influences consumers through integrated cognitive, emotional, and behavioural pathways. The strong standardized path coefficients demonstrate that subliminal cues simultaneously activate subconscious perception, emotional engagement, and behavioural intention, ultimately shaping consumer buying decisions. From a managerial perspective, the results indicate that strategic use of subliminal elements in advertising can enhance brand engagement, increase consumer involvement, and reinforce purchase commitment within the Gujarat market. However, the findings also raise ethical concerns, as excessive subliminal influence may contribute to compulsive buying behaviour and subconscious persuasion.

These results are consistent with established theories and prior empirical research. The cognitive–affective–behavioural framework proposed by Leon Schiffman and Joseph Wisenblit (2019) explains how consumer perception, emotions, and actions operate as interconnected processes, which aligns with the structural pathways identified in this study. The hierarchy-of-effects model by Philip Kotler and Kevin Lane Keller (2016) supports the sequential transition from cognition to emotion and then behaviour, evident in the SEM results. Experimental findings by Johan Karremans (2006) confirmed that subliminal stimuli influence consumer choice when aligned with motivational states, reinforcing the behavioural outcomes observed. Additionally, the meta-analytic research by Charles Trappey (1996) demonstrated that subliminal advertising affects attitudes and decision-making, supporting the present findings on brand preference and purchase intention. More recent neuromarketing research by Patrick Renvoise and Christophe Morin (2020) also confirms that subconscious cues significantly influence consumer engagement and decision behaviour.

Overall, the SEM findings (2026) establish that subliminal advertising exerts a multidimensional and powerful influence on consumer buying behaviour by shaping cognitive processing, emotional engagement, and behavioural responses, thereby validating the conceptual framework of the study and reinforcing its implications for both academic research and marketing practice.

5.2 Conclusion

The present study was undertaken to examine the influence of subliminal advertising on consumer buying behaviour in Gujarat State by analysing the cognitive, emotional, and

behavioural responses of consumers. The primary objective was to understand how hidden or subtle advertising cues shape perceptions, influence attitudes, and ultimately affect purchase decisions. The findings of the study indicate that subliminal advertising plays a substantial and multidimensional role in shaping consumer responses and behavioural patterns in the contemporary marketplace. The study concludes that subliminal advertising exerts a strong influence on consumer psychology by functioning at the subconscious level. Consumers often process advertising stimuli without consciously recognizing them, yet these stimuli shape their perceptions, preferences, and behavioural tendencies. The results demonstrate that subliminal cues embedded in advertisements affect how consumers interpret brand messages, evaluate products, and form purchase intentions. These cues contribute to the development of mental associations, emotional reactions, and behavioural inclinations that influence buying behaviour over time. A major conclusion of the study is that subliminal advertising significantly affects the cognitive dimension of consumer behaviour. Consumers exposed to subtle advertising cues develop enhanced awareness, perception, and understanding of brands and products. Such cues reinforce brand recall and improve information processing, resulting in stronger mental associations. Even when consumers do not consciously identify the message, their subconscious mind retains impressions that influence their decision-making processes. This highlights that consumer behaviour is not always governed solely by rational evaluation; subconscious cognition plays a crucial role in shaping preferences and choices.

The emotional dimension of consumer response is also strongly influenced by subliminal advertising. Subtle cues evoke emotional reactions such as curiosity, attraction, comfort, and excitement, which contribute to favourable attitudes toward advertisements and brands. Emotional engagement enhances the impact of advertising by establishing psychological connections between consumers and brands. These emotional responses often guide buying decisions more strongly than rational considerations, as consumers frequently rely on feelings when selecting products and services. The findings indicate that subliminal advertising shapes emotional perceptions in ways that foster brand attachment and satisfaction. Another important conclusion is that subliminal advertising improves consumers' evaluation of advertisements. Consumers exposed to such cues perceive advertisements as more appealing, creative, and persuasive. The subtle integration of messages enhances the perceived quality and relevance of advertising content, increasing attention and engagement. Positive evaluation of advertisements strengthens their influence on attitudes and behaviour, indicating that subliminal elements contribute to overall advertising effectiveness by improving perception, comprehension, and recall.

The study further concludes that subliminal advertising increases consumer involvement with advertisements and brands. Consumers tend to exhibit greater psychological engagement when exposed to subtle cues that stimulate curiosity and interest. This engagement encourages deeper processing of advertising messages and strengthens the relationship between consumers and brands. Increased involvement leads to stronger brand attitudes, higher satisfaction, and a greater likelihood of purchase. The findings suggest that subliminal advertising not only creates awareness but also encourages meaningful interaction with marketing communication. The behavioural outcomes associated with subliminal advertising are also significant. The study reveals that subliminal cues influence consumer actions such as product selection, brand preference, and purchase intention. Consumers exposed to such stimuli demonstrate higher interest in purchasing products and a greater tendency toward repeat purchases. This indicates that subliminal advertising contributes to both immediate buying decisions and long-term behavioural patterns. The reinforcement of positive experiences through subtle messaging strengthens loyalty and commitment toward brands. The findings also show that subliminal advertising influences emotional satisfaction associated with consumption. Consumers influenced by subconscious cues often experience emotional gratification after making purchases. This emotional reinforcement encourages repeated buying behaviour and strengthens consumer-brand relationships. The link between emotional satisfaction and buying behaviour suggests that subliminal advertising shapes post-purchase attitudes and perceptions, thereby influencing future consumption patterns. Another key conclusion is the association between subliminal advertising and impulsive or compulsive buying tendencies. Subtle cues can trigger spontaneous purchase behaviour by activating emotional and psychological responses. Consumers may develop habitual buying patterns influenced by subconscious stimulation, particularly when repeatedly exposed to persuasive advertising cues. This demonstrates that subliminal advertising can affect not only rational decision-making but also emotional and impulsive aspects of consumer behaviour. Brand preference is also significantly influenced by subliminal advertising. Consumers exposed to subtle messages tend to develop stronger attachments to certain brands. These preferences are shaped by repeated exposure, emotional resonance, and subconscious associations. Over time, such influences contribute to brand loyalty and sustained consumer commitment. This indicates that subliminal advertising plays an important role in shaping brand positioning and competitive presence in the marketplace. Purchase intention emerged as another major outcome influenced by subliminal advertising. Consumers exposed to subconscious cues demonstrated stronger intentions to purchase products and services. The

influence extends beyond a single purchase decision and contributes to future buying plans and repeat behaviour. This confirms that subliminal advertising has both immediate and long-term implications for consumer behaviour and consumption patterns.

The study also reveals variations in consumer responses to subliminal advertising across demographic groups. Differences were observed in how individuals interpret and respond to advertising stimuli based on personal and socio-economic characteristics. Gender differences suggest that emotional sensitivity and behavioural tendencies shape responses to subliminal cues. Age differences indicate that maturity, life experience, and exposure to marketing communication influence how consumers react to advertising. Education levels affect critical thinking and evaluation processes, yet subliminal cues continue to shape emotional and behavioural outcomes even among highly educated individuals. Income variations also influence consumer perception and engagement with advertisements, reflecting differences in lifestyle, aspirations, and consumption patterns. These findings highlight the diversity of consumer behaviour and the complex interaction between psychological and demographic factors. The study contributes to a broader understanding of consumer behaviour by demonstrating that buying decisions are not solely based on conscious reasoning and rational evaluation. Subconscious processes, emotional influences, and psychological cues play a vital role in shaping consumer responses. Consumer behaviour emerges as a multidimensional phenomenon influenced by internal psychological mechanisms and external marketing stimuli. This perspective expands the traditional understanding of decision-making and emphasizes the importance of considering cognitive and emotional dynamics in the study of consumer behaviour.

Overall, the study establishes that subliminal advertising is a powerful communication approach that significantly influences consumer buying behaviour. Its impact extends across cognitive perception, emotional engagement, and behavioural outcomes, shaping how consumers interpret advertisements, develop preferences, and make purchase decisions. The findings demonstrate that subconscious cues influence not only immediate buying behaviour but also long-term brand relationships and consumer loyalty. The study emphasizes that consumer decision-making is deeply affected by psychological mechanisms operating beyond conscious awareness. Subliminal advertising functions by stimulating emotions, reinforcing mental associations, and guiding behavioural tendencies in subtle yet influential ways. Its effectiveness lies in its ability to integrate cognitive and emotional processes, creating a comprehensive impact on consumer behaviour. In summary, the study provides a holistic understanding of the role of subliminal advertising in shaping consumer buying behaviour in

Gujarat State. It highlights the significance of subconscious communication in influencing perceptions, emotions, and behavioural responses. The insights derived from the study contribute to a deeper understanding of how subtle advertising cues shape consumer psychology and behaviour, reinforcing the importance of psychological dimensions in contemporary marketing and consumer research.

5.3 Managerial Implications

The findings of the study on the impact of subliminal advertising on consumer buying behaviour in Gujarat offer several practical implications for marketers, brand managers, advertising agencies, and policy planners. The insights can guide strategic decision-making, campaign design, and ethical advertising practices in both traditional and digital environments.

- Marketers should integrate subliminal cues strategically within advertising content to subtly influence consumer perceptions without creating cognitive overload or resistance.
- Advertisements should be designed with emotionally appealing visual and auditory elements, as subconscious emotional triggers significantly shape consumer attitudes and purchase tendencies.
- Brand managers should focus on creating repeated and consistent brand exposures, since subliminal impressions strengthen familiarity and long-term brand recall.
- Subliminal advertising techniques should be aligned with consumer psychology, particularly perception, motivation, and attitude formation, to enhance persuasive effectiveness.
- Advertising agencies should combine subliminal messaging with storytelling formats, as narrative-driven content enhances subconscious engagement and improves message retention.
- Marketers should emphasize symbolic cues such as colours, shapes, background imagery, and subtle textual placements that reinforce brand identity without appearing overtly promotional.
- Digital marketing campaigns should incorporate subliminal elements in social media visuals, short-form videos, and banner advertisements, where quick exposure enhances subconscious processing.

- Consumer segmentation strategies should be developed to tailor subliminal cues based on demographic and psychographic characteristics, as different groups respond differently to subconscious stimuli.
- Retailers should utilize subliminal techniques in in-store atmospherics, packaging design, shelf placement, and background music to positively influence purchase decisions at the point of sale.
- Brand positioning strategies should incorporate subtle reinforcement of values such as trust, quality, prestige, and lifestyle compatibility through non-intrusive advertising cues.
- Marketing communication should maintain a balance between explicit information and subconscious persuasion, ensuring that consumers receive rational justification alongside emotional stimulation.
- Firms should train marketing teams to understand behavioural science principles, neuromarketing concepts, and subconscious perception processes to design more effective campaigns.
- Advertising planners should prioritize long-term brand building rather than short-term sales pushes, as subliminal advertising works gradually by shaping perceptions and attitudes over time.
- Consumer experience management should incorporate subliminal sensory branding through store ambience, product aesthetics, and digital interfaces.
- Marketers must ensure ethical usage of subliminal techniques, avoiding manipulation or deceptive practices that may damage consumer trust and brand reputation.
- Regulatory awareness is essential; organizations should design subliminal messages within acceptable ethical and legal boundaries to maintain transparency and credibility.
- Brands targeting younger and digitally active consumers should use subtle visual cues and micro-content strategies, as these audiences are more responsive to rapid subconscious exposures.
- Emotional branding should be strengthened by associating products with aspirations, lifestyle imagery, and symbolic meanings communicated subtly through advertisements.

- Companies should evaluate consumer responses to subliminal advertising through continuous feedback, engagement tracking, and behavioural observation to refine communication strategies.
- Integrated marketing communication should ensure that subliminal elements across media platforms—television, print, outdoor, and digital—convey consistent brand signals.
- Product packaging should incorporate subconscious appeal through minimalistic design, colour psychology, and implicit messaging to influence purchase decisions at the shelf level.
- Marketers should focus on building trust-based subliminal associations, as positive subconscious impressions contribute to brand loyalty and repeat purchase behaviour.
- Advertising effectiveness should be assessed not only through immediate sales outcomes but also through brand recall, perception shifts, and emotional engagement indicators.
- Firms operating in competitive markets should use subliminal differentiation strategies to subtly highlight uniqueness without direct comparative advertising.
- Long-term consumer relationship strategies should integrate subconscious brand reinforcement to sustain loyalty, advocacy, and positive word-of-mouth.

5.4 Scope for further Study:

- Future research can be conducted across different states of India to compare regional variations in consumer responses to subliminal advertising and enhance the generalizability of findings.
- Longitudinal studies may be undertaken to examine the long-term impact of subliminal advertising on brand loyalty, repeat purchase behaviour, and consumer attitudes over time.
- Further studies can explore the effectiveness of subliminal advertising across different media platforms such as social media, OTT platforms, mobile applications, and in-store digital displays.
- Research may focus on specific demographic segments such as rural consumers, youth, senior citizens, and working professionals to understand differential behavioural responses to subconscious advertising cues.

- Future investigations can integrate emerging areas such as neuromarketing, artificial intelligence-based advertising, and virtual environments to assess how advanced technologies enhance the impact of subliminal messaging on consumer decision-making.

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APPENDIX

Appendix A Questionnaire

I am Jitendra Patil, a research scholar at Gujarat Technological University, conducting a study on effect of Subliminal Advertising on Consumer Buying Behaviour with respect to Gujarat State. Your participation in this survey is extremely important as it will help expand knowledge in this field. Your input will not only enhance academic insights but also provide practical recommendations for improving the consumer buying behaviour using subliminal advertising.

Thank you for your time and valuable input.

KINDLY SEE THE BELOW ADVERTISEMENTS AND ANSWER THE FOLLOWING QUESTIONS:

Burger King:



Coca Cola



Pepsi



Kindly give answer to following questions related to subliminal advertising.

Cognition: Fitzsimons & Chartrand (2003)						
	Subliminal advertising	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.1	Enhances brand recognition even when viewers are unaware of the stimuli	(1)	(2)	(3)	(4)	(5)
1.2	Exposure influences consumer attitudes without conscious awareness	(1)	(2)	(3)	(4)	(5)
1.3	Messages provoke unconscious cognitive	(1)	(2)	(3)	(4)	(5)

	processing, affecting decision making					
1.4	Awareness of subliminal stimuli correlate with increased cognitive vigilance towards advertised products	(1)	(2)	(3)	(4)	(5)
1.5	Perceived credibility of brands is influenced by exposure to subliminal cues in the advertisements	(1)	(2)	(3)	(4)	(5)
Feelings/Affection: Plassmann (2007)						
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2.1	I experience heightened emotional responses when subliminal messages are integrated into advertisements	(1)	(2)	(3)	(4)	(5)
2.2	Exposure to subliminal advertising makes me feel more connected to the advertised brands	(1)	(2)	(3)	(4)	(5)
2.3	Subliminal cues in advertising create a sense of curiosity in me	(1)	(2)	(3)	(4)	(5)
2.4	Subliminal advertising evokes positive emotions towards advertised brands or products	(1)	(2)	(3)	(4)	(5)
Advertisement Evaluation: Xu & Du (2011)						
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
3.1	My attention is drawn to the unique content of the advertisement	(1)	(2)	(3)	(4)	(5)
3.2	The content of the advertisement tempers my interest	(1)	(2)	(3)	(4)	(5)
3.3	The advertising techniques captivate my interest	(1)	(2)	(3)	(4)	(5)
3.4	I consider purchasing the advertised product	(1)	(2)	(3)	(4)	(5)
3.5	The advertisement is trustworthy	(1)	(2)	(3)	(4)	(5)
Advertisement Effect: Lee & Labroo (2004)						
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

4.1	Subliminal advertising improves the effectiveness of traditional advertising methods	(1)	(2)	(3)	(4)	(5)
4.2	Subliminal advertisements have a greater impact on my subconscious perceptions compared to other advertisements	(1)	(2)	(3)	(4)	(5)
4.3	I find subliminal messages in advertisements more attention grabbing than other advertising	(1)	(2)	(3)	(4)	(5)
4.4	I am more likely to remember products or brands advertised subliminally compared to advertised by other methods.	(1)	(2)	(3)	(4)	(5)
4.5	Subliminal advertising affects my purchasing decisions in ways that other advertising does not	(1)	(2)	(3)	(4)	(5)
Advertisement Involvement: Maheswaran & Meyers (1990)						
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
5.1	Advertisements are always significant	(1)	(2)	(3)	(4)	(5)
5.2	The advertisement holds great importance to me	(1)	(2)	(3)	(4)	(5)
5.3	I am highly attentive to the content of the advertisements	(1)	(2)	(3)	(4)	(5)
5.4	Advertisements are pertinent to me					
5.5	I consistently seek information in advertisements	(1)	(2)	(3)	(4)	(5)
Consumer Emotion: CASC Scale developed by Kovacic & Podgornik (2013)						
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
6.1	The advertisement made me feel joyful	(1)	(2)	(3)	(4)	(5)
6.2	The advertisement made me feel attractive	(1)	(2)	(3)	(4)	(5)
6.3	The advertisement made me feel upset	(1)	(2)	(3)	(4)	(5)
6.4	The advertisement made me feel proud	(1)	(2)	(3)	(4)	(5)
6.5	The advertisement made me feel a sense of belonging	(1)	(2)	(3)	(4)	(5)
Compulsive Buying: Verplanken&Herabadi (2001)						

	After watching the advertisement,	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7.1	I tend not to think before making a purchase	(1)	(2)	(3)	(4)	(5)
7.2	I often end up buying things I had not planned on	(1)	(2)	(3)	(4)	(5)
7.3	When I make a purchase, it's usually on compulse	(1)	(2)	(3)	(4)	(5)
7.4	I frequently buy things without considering them first	(1)	(2)	(3)	(4)	(5)
7.5	Sometimes, I can't resist the urge to buy something	(1)	(2)	(3)	(4)	(5)
Brand Preference: Sirgy, Grewal, Mangleburg, & Park (1997)						
		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
8.1	I find the advertised brand more appealing than the others	(1)	(2)	(3)	(4)	(5)
8.2	I intend to use the advertised brand more frequently than others	(1)	(2)	(3)	(4)	(5)
8.3	Seeing the advertisement makes me prefer the product more	(1)	(2)	(3)	(4)	(5)
8.4	I am more inclined to buy the advertised brand	(1)	(2)	(3)	(4)	(5)
8.5	When making a purchase, I favour the advertised product	(1)	(2)	(3)	(4)	(5)
Purchase Intention: Pongianan (2011) and Aulia (2017)						
	Subliminal advertisement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
9.1	Made me feel a compulsion to purchase the product	(1)	(2)	(3)	(4)	(5)
9.2	Convinced me that the product is right for me	(1)	(2)	(3)	(4)	(5)
9.3	Motivated me to buy the product featured in the advertisement	(1)	(2)	(3)	(4)	(5)
9.4	Persuaded me to purchase the product	(1)	(2)	(3)	(4)	(5)

Demographic Information:

NAME: (Optional)					
GENDER	Age Group	Marital status	Occupation	Education level	
(1) Male (2) Female	(1) 16 to 25 years (2) 25 to 40 years (3) 41 to 55 years (4) More than 55 years	(1) Married (2) Unmarried	(1) Business (2) Professional (3) Private Job (4) Govt. Job (5) Housewife (6) Student	(1) Up to H Sc (2) Graduate (3) Postgraduate (4) Professional Course (5) Ph D	

**Monthly income
(approx. family
income INRs.)**

- (1) Up to 5,000
 - (2) 5,001 to 20,000
 - (3) 20,001 to 50,000
 - (4) 50001 to 100000
 - (5) More than 100000
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Appendix B

Published Research Papers

1. "Exploring The Impact Of Subliminal Messaging On Consumer Decisions: A Study of College Going Students In Ahmadabad City", , Volume-11, Issue: 4, Jul-December 2025, E-ISSN:2405-710X, pp-81-86
2. "Subliminal Advertising and Its Role in Shaping Consumer Buying Habits: A Gujarat Perspective", Volume 5 No 3, Issue: Jul-December 2025, ISSN: 2583-0716, pp-01-10