

# “Stronger Immunity, Smarter Future”: Biopolitics and the Discursive Construction of the Smarative Child in Aptamil KID Advertising

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## ABSTRACT

Commercial milk formula advertising increasingly incorporates biomedical terminology and developmental claims to position nutritional products as essential tools for supporting children's health and cognitive growth. This study examines how such narratives are constructed in the Aptamil KID (C-section Synbiotic) radio advertisement. Utilizing Critical Discourse Analysis (CDA) in tandem with Multimodal Discourse Analysis (MDA), this research investigates both the linguistic and sonic elements of the advertisement to explore how marketing discourse frames specialized nutrition for Caesarean-section-born children. The findings reveal that the advertisement constructs a subtle narrative of biological vulnerability by repeatedly categorizing “C-section-born children” as a distinct cohort requiring specialized nutritional intervention. Scientific terminology and quantitative references, such as “5.7 billion probiotics,” function as rhetorical devices to enhance commercial credibility while presenting formula as a technologically advanced solution for immune system development. Simultaneously, the slogan “stronger immunity, smarter future” discursively links physiological resilience with long-term cognitive potential, reinforcing broader neoliberal cultural expectations surrounding competitive parenting and developmental optimization. Building on these findings, this study proposes the concept of the “Smarative Child”; a discursive figure in which biological health and intellectual competitiveness are fused through narratives of nutritional engineering. This study contributes to critical health communication and advertising research by demonstrating how formula marketing translates complex biomedical knowledge into consumer-oriented imperatives about childhood development and parental responsibility.

**Keywords:** Critical Discourse Analysis; Multimodal Discourse Analysis; Formula Milk Advertising; Microbiome Marketing; Neoliberal Parenting; Child Development Discourse; Health Communication; Biopolitics.

## INTRODUCTION

The global market for commercial milk formula has expanded rapidly over the past two decades, accompanied by increasingly sophisticated marketing strategies that frame formula products as technologically advanced solutions for children's health and development. Contemporary formula advertising frequently incorporates scientific terminology, biomedical imagery, and developmental claims to position nutritional products as essential tools for supporting physical and cognitive growth. These marketing practices have attracted growing scrutiny from public health researchers and policymakers due to their profound influence on parental perceptions of infant nutrition and child development. Recent global evidence suggests that exposure to commercial milk formula marketing remains widespread and continues to heavily shape societal attitudes toward infant feeding practices, undermining public health initiatives and altering perceptions of child health (Horwood et al., 2024).

A particularly notable development in recent formula marketing is the aggressive emphasis on microbiome science and immune development. Advances in microbiome research have highlighted the critical role of early microbial colonization in shaping immune function and metabolic processes. In response, formula manufacturers have begun incorporating probiotic, prebiotic, and synbiotic ingredients into their product lines, presenting these biochemical components as scientifically validated mechanisms for optimizing children's gut health (Zhang et

al., 2024). The increasing commercialization of microbiome-related nutrition products reflects a broader trend in which emerging biomedical research is translated into consumer-oriented health claims to enhance brand value and market competitiveness. The effective commercialization of such products also depends on broader translational strategies, including maintaining product quality, fostering collaboration among government and industry stakeholders, and complying with regulatory standards (Lei et al., 2024).

Within this evolving marketing landscape, Caesarean-section birth has emerged as a lucrative new target category in formula advertising. Clinical research suggests that infants delivered via Caesarean section may experience temporary differences in early microbial colonization compared with those born through vaginal delivery (Mitchell et al., 2020). While the long-term clinical implications of these differences remain the subject of nuanced scientific debate, marketing narratives have rapidly simplified and reframed C-section birth as an inherent biological deficit associated with compromised immune development. These narratives present specialized formula products as necessary nutritional interventions designed to “restore” or “support” microbiome balance and immune function. Critical analysts have noted that the commercial translation of biomedical research routinely abstracts complex laboratory and clinical data into simplified, anxiety-driven consumer narratives (Lei et al., 2024).

At the same time, formula advertising increasingly extends beyond claims about physical health to include explicit promises related to children’s cognitive development and future success. Marketing messages frequently associate specialized nutrition with enhanced brain development, heightened intelligence, or milestone achievement. Such claims resonate strongly with contemporary parenting cultures, where parents are encouraged to actively manage, monitor, and optimize their children's developmental trajectories from birth. This appeal is reinforced by the ideology of intensive parenting, which frames children's optimal growth as a primary parental responsibility and encourages substantial parental investment in achieving developmental success (Bryzek et al., 2024). Under this regime of “intensive parenting,” caregivers are expected to invest significant economic and emotional resources into securing competitive advantages for their children, often through consumption choices that promise long-term developmental superiority (Aureoles-García et al., 2025).

These developments reflect broader transformations in the governance of health and childhood. Sociological scholarship has highlighted how biomedical knowledge increasingly disciplines everyday understandings of the human body, health, and risk. Contemporary societies are characterized by the growing influence of “biopolitics”—a mode of governance where individuals are encouraged to understand and manage their biological processes through continuous optimization, self-tracking, and consumer choices (Rose, 2007). Within this context, health and developmental outcomes are no longer viewed as matters of chance, but as moral responsibilities that can be actively engineered through technological interventions. Such a framing aligns with neoliberal health cultures, where risk prevention functions as a moralizing logic: the identification of risk produces normative expectations of “right” parental choices, and health practices become performances of responsibility rather than simply responses to uncertainty (Aamann, 2020).

Advertising discourse plays a crucial role in translating these biopolitical ideas into everyday consumer practices. Through the strategic coordination of language, imagery, and sound, advertisements construct persuasive narratives that bridge advanced scientific knowledge with intimate parental decision-making. Critical Discourse Analysis (CDA) provides a robust framework for examining how these narratives operate. CDA conceptualizes discourse as a powerful form of social practice that both reflects and reproduces broader ideological structures and power asymmetries (Fairclough, 2015). By analyzing the linguistic and semiotic features of advertising messages, CDA enables researchers to investigate how commercial communication normalizes highly specific understandings of health, risk, and maternal responsibility.

Despite growing interest in formula marketing, several critical gaps remain in the literature. First, existing studies have overwhelmingly focused on static visual advertising in print, digital, and social media environments, leaving audio-based promotional formats—such as radio advertisements—significantly under-researched. Radio advertising relies entirely on a complex, multi-layered acoustic text rather than simple spoken copy with optional background music. This cohesive sonic code comprises speech, music, rhythm, sound effects, vocal timbre, acoustic texture, and deliberate silence, which work dialogically alongside language to produce persuasive meaning (Mas Manchón, 2016; Rodero & Larrea, 2020). Because radio lacks visual capabilities, its persuasive

power depends entirely on using these auditory elements to build dramatized scenes and evoke vivid mental images for the listener (Mas Manchón, 2016). Analyzing these multimodal elements is therefore necessary to fully comprehend how commercial messages manipulate affect and audience interpretation (Kress & van Leeuwen, 2021).

Second, relatively few studies have critically examined how formula advertising specifically constructs discourses surrounding C-section birth and microbiome-related nutritional interventions. As formula manufacturers increasingly target C-section-born children as an isolated consumer segment, it becomes vital to investigate how these narratives pathologize birth modes to legitimize the necessity of specialized products. Finally, limited research has explored the ideological intersection where formula marketing links immediate biological health with long-term cognitive competitiveness and future socioeconomic success. The discursive association between immunity, intelligence, and future performance reflects wider neoliberal cultural assumptions about childhood that warrant rigorous critique.

In response to these gaps, this study analyzes the discourse of an Aptamil KID (C-SynB) radio advertisement by synthesizing Critical Discourse Analysis with Multimodal Discourse Analysis. By examining both the linguistic and sonic elements of the advertisement, the study seeks to uncover how marketing narratives construct meanings around C-section birth, immune health, and cognitive development.

The study is guided by two primary research questions:

RQ1: How does the linguistic and multimodal discourse of the Aptamil KID advertisement construct a “biological deficit” for C-section-born children to legitimize the necessity of specialized formula?

RQ2: In what ways does the advertisement reproduce neoliberal ideologies of “competitive parenting” through the discursive link between immunity and cognitive performance?

By addressing these questions, this study contributes to critical scholarship on health communication, biopolitics, and advertising. It demonstrates how formula marketing discursively transforms specialized nutrition into a vital technological tool for managing biological risk and engineering children's developmental futures.

## LITERATURE REVIEW

### Commercial Milk Formula Marketing and Health Claims

Commercial milk formula marketing has become increasingly sophisticated, employing scientific language and biomedical claims to position formula products as essential components of children's health and development. Studies examining global marketing practices have found that formula advertisements frequently incorporate references to immunity, brain development, and digestive health to construct products as scientifically advanced nutritional solutions. For an example, in the 15-country survey, the most common claim was that formula helps support development of the brain, eyes, or nervous system (Cheung et al., 2023). These claims often draw on emerging biomedical research while presenting simplified interpretations easily understandable to consumers.

The persuasive power of such marketing strategies lies in their ability to translate complex scientific concepts into everyday parental concerns. Research analyzing digital marketing campaigns has shown that formula brands commonly frame their products as tools that help parents manage potential developmental risks faced by their children (Aureoles-García et al., 2025). By presenting nutritional products as preventative or corrective interventions, advertising narratives position formula consumption as a responsible parental choice. Scholars have also observed that formula marketing frequently targets specific developmental stages or perceived vulnerabilities in childhood, framing biological processes as areas that can be optimized through specialized consumer products.

While regulatory frameworks such as the International Code of Marketing of Breast-milk Substitutes seek to limit misleading health claims, evidence suggests that marketing practices continue to evolve in ways that subtly circumvent regulatory restrictions. Contemporary advertising increasingly relies on indirect claims, scientific

imagery, and expert discourse to convey messages about product efficacy without making explicit medical promises (Horwood et al., 2024). This global rise in consumption is heavily driven by structural transformations in first-food systems and the aggressive ultra-processing of infant diets (Baker et al., 2020). Furthermore, during systemic crises such as the COVID-19 pandemic, formula companies intensified digital marketing efforts to exploit parental anxieties regarding contamination and immunity (Hidayana et al., 2023). As a result, the World Health Organization (2022) has emphasized that understanding how these meanings are constructed requires a close analysis of the expansive and unregulated digital and multi-platform landscapes used in modern advertising discourse.

### **Microbiome Science and the Commercialisation of Infant Nutrition**

Recent advances in microbiome research have significantly influenced the marketing narratives surrounding infant and child nutrition. Scientific studies have demonstrated that early microbial colonization plays an important role in the development of the immune system and metabolic processes as early life is described as a window of opportunity in which colonizing microbes shape immune maturation and later immune reactivity (Xiang et al., 2020; Ignacio et al., 2024; Dogra et al., 2021). These findings have generated substantial commercial interest, particularly among formula manufacturers seeking to incorporate probiotic, prebiotic, and synbiotic ingredients into their products.

The growing popularity of microbiome-related health claims reflects a broader process often described as the commercialization of biomedical knowledge. According to scholars studying the sociology of biomedicine, scientific discoveries are frequently translated into consumer products that promise to optimize biological functions. As Molldren et al. (2025) argue, this transition is heavily driven by translational science initiatives, which deliberately center early-stage development risks within universities to make academic research more enticing for later commercialization. Expanding on these commercial pathways, Gad et al. (2024) emphasize that contemporary pharmaceutical innovation relies on a mix of product, process, and marketing strategies to enhance healthcare access and outcomes, fueled by the rapid expansion of digital health, biosimilar, and biologics. In the context of infant nutrition, this translation often involves framing microbiome science as evidence supporting the need for specialized nutritional interventions.

Research examining the marketing of microbiome-enhancing products notes that advertisements frequently highlight numerical indicators such as the quantity of probiotics contained in a product or the presence of scientifically named ingredients. These quantitative references serve to enhance the perceived credibility of marketing claims by signaling scientific precision and technological sophistication (Jiang et al., 2025).

In addition to emphasizing scientific innovation, microbiome-related marketing often constructs narratives about biological imbalance or deficiency. For instance, certain birth conditions or delivery modes—such as Caesarean sections—are framed as altering the natural composition of the infant microbiome (Kennedy et al., 2025; Mitchell et al., 2020). By presenting specialized formula as a means of restoring or supporting microbial balance, marketing discourse positions nutritional products as rational solutions to biologically framed challenges. This trend has led scholars to question how biomedical concepts are mobilized within commercial communication and how such narratives shape parental understandings of infant health and development.

### **Neoliberal Parenting and the Optimisation of Childhood**

The increasing emphasis on specialized nutrition in formula marketing can also be understood within the broader context of contemporary parenting cultures. Sociological research suggests that modern parenting is increasingly shaped by expectations that parents should actively invest in their children's developmental success through careful management of educational, emotional, and health-related resources (List et al., 2021; Jeong et al., 2021). Within this framework, childhood is conceptualized as a critical period during which early interventions shape long-term life outcomes. Parents are therefore encouraged to engage in practices that maximize their children's developmental potential, expectations that are reinforced by commercial industries offering products that promise physical and cognitive advantages.

The concept of "intensive parenting" has been widely used to describe these cultural expectations, which demand significant parental investment in monitoring, nurturing, and enhancing children's abilities to ensure their future competitiveness. These parenting ideals reflect wider transformations in contemporary governance and the "datafication" of youth, where the digitized child is tracked, measured, and optimized from birth through quantifiable metrics. Das (2023) observes that parents' digital literacy heavily contributes to this environment, shaping their awareness of how to strategically champion their children's development. According to Rose (2007), modern societies increasingly encourage individuals to take responsibility for managing biological and developmental risks through everyday health management. Within this context of self-tracking and biological self-governance, consumer choices become essential tools through which parents attempt to optimize their children's biological and cognitive capacities. Advertising discourse plays a critical role in reinforcing these expectations by linking product consumption with narratives of future success, suggesting that early nutritional choices directly dictate long-term educational and developmental trajectories.

### **Multimodality, Sound, and Auditory Discourse**

While textual analysis exposes the overt linguistic claims of marketing, contemporary advertising operates through complex multi-semiotic systems that extend far beyond language alone. To fully understand the persuasive mechanisms of promotional media, discourse analysis must account for multimodality—the combination of different semiotic modes, such as language, image, music, and sound, to create a unified communicative event (Kress & van Leeuwen, 2021). In communication environments where visual cues are completely absent, such as radio advertising or audio-only digital podcasts, the auditory track bears the entire burden of generating meaning, establishing authority, and eliciting emotional resonance.

Auditory discourse operates through both verbal linguistics and acoustic texturing. As Baldry and Thibault (2000) note, sound in advertising does not merely serve as a passive background accompaniment to spoken words; rather, it actively structures the viewer or listener's temporal and emotional journey. Acoustic resources, including vocal timbre, pitch variations, rhythmic pacing, and musical arrangements, function as distinct semiotic choices that position the consumer in relation to the product. For example, the strategic transition from a deep, clinical, authoritative voiceover to an upbeat, melodic musical jingle allows an advertisement to bridge two distinct discursive worlds: the institutional authority of medicine and the intimate safety of the domestic sphere.

By analyzing these sonic properties alongside text, researchers can map how abstract scientific claims are transformed into felt, affective realities for the listener. Music and acoustic framing can mask underlying narratives of health risks or biological deficits by bathing the listener in an environment of optimism, safety, and corporate reassurance. Therefore, integrating multimodal discourse analysis with critical text analysis is essential for unpacking how commercial audio media normalizes ideologies of optimization and parental responsibility.

### **Critical Discourse Analysis in Health and Advertising Research**

Critical Discourse Analysis (CDA) provides a robust methodological framework for examining how advertising narratives construct meanings about health, development, and parental responsibility. CDA conceptualises discourse as a social practice through which ideological assumptions are reproduced, challenged, and legitimised in everyday communication. The approach developed by Norman Fairclough (2015) emphasizes the dialectical relationship between micro-linguistic textual features, meso-level discursive practices (production and consumption), and macro-level social structures. By analyzing how specific language choices operate within larger communicative contexts, CDA enables researchers to investigate how commercial messages contribute to the normalization of particular social values and beliefs.

In the field of health communication, CDA has been widely used to examine how medical knowledge is translated into public discourse. Studies have applied CDA to topics such as pharmaceutical advertising, public health campaigns, and infant formula promotion, demonstrating how commercial messages often frame health risks and solutions in ways that encourage specific forms of consumer behavior (World Health Organization & UNICEF, 2024). Advertising discourse is uniquely suited to CDA because of its strategic combination of scientific terminology, emotional appeals, and cultural values to construct compelling narratives that resonate

with target audiences. When applied to formula milk marketing, CDA reveals how commercial entities exploit societal anxieties around infant feeding and child health, transforming complex, ongoing scientific debates into clear-cut, consumer-driven imperatives (Baker et al., 2016).

## METHODOLOGY

### Research Design

This study adopts a qualitative critical discourse analytical approach to examine how commercial advertising constructs meanings surrounding child development, immune health, and specialized nutrition. Specifically, the analysis combines Critical Discourse Analysis (CDA) with Multimodal Discourse Analysis (MDA) to capture both the linguistic and sonic dimensions of a radio advertisement.

Critical Discourse Analysis conceptualizes discourse as a form of social practice that both reflects and reproduces broader ideological structures. The analytical framework developed by Norman Fairclough emphasizes the dialectical relationship between textual features, discursive practices, and wider socio-cultural contexts (Fairclough, 2015). This approach is particularly suitable for examining advertising discourse because marketing messages routinely embed ideological assumptions within persuasive language and symbolic representations.

While CDA provides the overarching theoretical framework for examining discourse and ideology, Multimodal Discourse Analysis complements this approach by enabling the systematic analysis of non-linguistic semiotic resources such as sound, rhythm, and music. Radio advertisements rely heavily on sonic elements to convey meaning, capture attention, and influence audience interpretation. Integrating CDA with multimodal analysis therefore allows for a more comprehensive examination of how audio-only advertising messages construct cohesive persuasive narratives.

### Data Source and Selection

The data analyzed in this study consists of a 30-second radio advertisement promoting Aptamil KID (C-SynB), a commercial milk formula product marketed specifically for children born via Caesarean section. This advertisement was selected due to its explicit marketing focus on C-section birth and its dense incorporation of scientific terminology related to microbiome-based nutrition.

Radio advertising represents a highly relevant yet under-researched site for discourse analysis because it relies primarily on linguistic and auditory elements rather than visual imagery. Unlike visual advertisements that communicate through images and graphics, radio advertisements depend entirely on voice, tone, music, and repetition to construct persuasive meaning. Analyzing these sonic features allows researchers to examine how auditory elements actively contribute to the framing of health and developmental claims.

The advertisement analyzed in this study contains several key components, including:

- a repetitive musical jingle promoting the product name
- a spoken narration describing product features
- references to scientific ingredients such as probiotics
- a slogan linking immune strength to future cognitive development

These elements collectively form the multimodal dataset used for analysis.

### Multimodal Transcription Procedure

To facilitate systematic analysis, the audio advertisement was transcribed using a dual-track multimodal transcription protocol adapted from the approach proposed by Baldry and Thibault (2006). This method allows

researchers to simultaneously document both the verbal content of the advertisement and its micro-level sonic features, including music, tone, and rhythm.

The transcription process involved two analytical tracks:

1. **Verbal Track:** Documenting spoken dialogue, sung lyrics, and linguistic slogan structures.
2. **Multimodal Track:** Documenting auditory cues such as background music, vocal emphasis, changes in pitch, and repetition patterns.

This dual-layered transcription enables the identification of discursive strategies that operate simultaneously through language and sound. By tracking linguistic content alongside acoustic "texture," the transcription protocol establishes an empirical record of the multi-semiotic text.

**Table 1 Multimodal Transcription of Aptamil KID (Excerpt)**

| Time  | Speaker  | Linguistic Content (Verbal)               | Acoustic/Paralinguistic Features        | Analytical Focus                                 |
|-------|----------|-------------------------------------------|-----------------------------------------|--------------------------------------------------|
| 00:01 | Singer   | "Mmm, Aptamil KID!"                       | High pitch; rising, playful intonation. | Affective "hook"; establishes domestic safety.   |
| 00:17 | Narrator | "With Synbio+, 5.7 billion probiotics..." | Deep, calm, "clinical" baritone.        | Epistemic authority; "System World" discourse.   |
| 00:26 | Singer   | "Stronger immunity, smarter future!"      | Resonant, melodic; orchestral swell.    | Ideological closure; linking biology to success. |

### Data Analytical Procedure

Following transcription, the data was analyzed using the three-dimensional framework of Critical Discourse Analysis developed by Norman Fairclough (2013). This framework operationalizes the analysis of discourse across three interconnected levels: textual analysis, discursive practice, and social practice.

**Table 2 Three-dimensional framework of Critical Discourse Analysis**

| Analytical Level    | Focus of Analysis                                                                 | Application in This Study                                                                                                                        |
|---------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Textual Analysis    | Linguistic features such as vocabulary, repetition, slogans, and numerical claims | Identification of key lexical choices such as "C-section born children," "Synbio+," and "5.7 billion probiotics."                                |
| Discursive Practice | How discourse is produced and organised within the advertisement                  | Examination of the interplay between narration, jingles, and scientific claims to construct persuasive marketing messages.                       |
| Social Practice     | Wider ideological and socio-cultural meanings reproduced through discourse        | Interpretation of how the advertisement reflects broader discourses of biomedicalisation, competitive parenting, and developmental optimisation. |

Through this multi-level analysis, the study moves from micro-textual and acoustic observations to macro-level ideological interpretations.

### Analytical Coding and Interpretation

The analytical process involved several stages of coding and interpretation. After transcription, segments of the advertisement were examined to identify recurring discursive patterns related to biological vulnerability, scientific legitimacy, and developmental aspirations.

The analytical categories were developed inductively while remaining informed by relevant theoretical literature on health communication, biopolitics, and critical discourse studies. These categories guided the identification of key discursive strategies within the advertisement, allowing the analysis to move from textual observation to ideological interpretation. Table 3 summarizes the primary discursive features identified in the analysis.

**Table 3 Summary of Primary Discursive Features**

| Advertisement Segment                  | Discursive Feature         | Linguistic/Multimodal Strategy                   | Ideological Function                                                      |
|----------------------------------------|----------------------------|--------------------------------------------------|---------------------------------------------------------------------------|
| “For C-section born children”          | Biological categorisation  | Repetition of birth-mode identity                | Constructs a narrative of biological vulnerability requiring intervention |
| “Synbio+” and “5.7 billion probiotics” | Scientific legitimisation  | Use of scientific terminology and quantification | Signals technological sophistication and biomedical credibility           |
| Upbeat musical jingle                  | Emotional persuasion       | Rhythm, repetition, and musical branding         | Enhances memorability and positive product association                    |
| “Stronger immunity, smarter future”    | Developmental optimisation | Slogan linking health with intelligence          | Reinforces narratives of competitive parenting and future success         |

### Reflexivity and Analytical Trustworthiness

Because Critical Discourse Analysis involves interpretive analysis, maintaining transparency is essential for ensuring research credibility and trustworthiness. Reflexivity acknowledges that researchers inevitably interpret discourse through specific theoretical lenses. Rather than trying to eliminate interpretation, rigorous qualitative discourse analysis emphasizes transparency in how analytical conclusions are reached.

In this study, several strategies were employed to enhance analytical trustworthiness. First, the use of a systematic multimodal transcription protocol adapted from Baldry and Thibault (2006) ensured that both linguistic and acoustic elements of the advertisement were consistently and transparently documented. Second, the analysis was systematically guided by Fairclough’s established three-dimensional model, which prevents arbitrary interpretations by anchoring all claims directly within the textual and auditory data.

Finally, the study adopts a principle of critical distance, wherein advertising claims are actively cross-examined in relation to broader socio-cultural discourses surrounding biopolitics, intensive parenting, and childhood development. By situating textual observations within wider structural and ideological contexts, the analysis provides a nuanced and verified interpretation of how commercial advertising participates in shaping modern understandings of childhood health and parental responsibility.

## FINDINGS AND DISCUSSION

To ensure analytical transparency, the findings are presented in a structured matrix linking specific linguistic and multimodal features of the advertisement to their discursive functions. This format allows the analysis to systematically connect micro-textual evidence with macro-level ideological interpretations in alignment with the three-dimensional Critical Discourse Analysis framework proposed by Norman Fairclough (2015).

**Table 4 Discursive Strategies in the Aptamil KID (C-SynB) Radio Advertisement**

| Data Extract                                                     | Linguistic / Multimodal Feature                     | Discursive Strategy                   | Interpretation                                                                                                                                                       | RQ  |
|------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| “For C-section born children” (repeated in jingle and narration) | Repetition; presupposition; categorisation          | Construction of biological difference | The phrase presupposes that C-section children have distinct biological needs. Repetition normalises this category and frames it as requiring specialised nutrition. | RQ1 |
| “Aptamil KID C-SynB”                                             | Technical product naming; biomedical lexicalisation | Scientific product identity           | The technical label suggests scientific sophistication and differentiates the product from ordinary milk formula.                                                    | RQ1 |

|                                        |                                                  |                                                  |                                                                                                                                                            |     |
|----------------------------------------|--------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| “5.7 billion probiotics”               | Numerical quantification; scientific terminology | Construction of biomedical authority             | The precise numerical claim creates an impression of scientific accuracy and laboratory validation, enhancing the credibility of the product.              | RQ1 |
| “Five brain nutrients”                 | Neuro-scientific vocabulary; cognitive framing   | Nutritional enhancement discourse                | The phrase implies that nutrition directly supports brain development, positioning the product as a tool for cognitive optimisation.                       | RQ2 |
| “Stronger immunity, smarter future”    | Parallel structure; future-oriented modality     | Linking biological health with cognitive success | The slogan constructs a causal link between immune health and long-term intellectual outcomes, framing consumption as an investment in the child’s future. | RQ2 |
| Upbeat jingle and enthusiastic singing | Positive musical tone; rhythmic repetition       | Affective branding                               | Sonic elements create an emotionally positive environment that associates the product with care, optimism, and responsible parenting.                      | RQ2 |

### Construction of a Biological Deficit Narrative (RQ1)

The analysis indicates that the advertisement constructs a subtle biological deficit narrative primarily through the strategic, repeated deployment of the phrase “*for C-section born children*”. From a critical discourse perspective, this phrasing operates through semantic presupposition. By explicitly isolating “C-section born children” as a standalone target consumer group, the advertisement presupposes that this mode of birth inherently results in a distinct, problematic biological state requiring outside correction. Although the audio text avoids explicit medical claims regarding disease or extreme pathology, the targeted wording establishes a rigid problem–solution structure wherein the specialized formula is positioned as the only logical intervention.

This strategy reflects broader commercial patterns documented by Horwood et al. (2024), where milk formula marketing shapes parental perceptions of normal infant development to generate structural dependencies on specialized products. By repeatedly identifying C-section delivery as a biological marker of vulnerability, the advertisement effectively transforms a routine clinical delivery path into a distinct consumer identity.

Furthermore, this narrative draws selectively on emerging microbiome research. As noted by clinical literature, delivery modes can influence early-life microbial colonization patterns (Kennedy et al., 2025). However, within the space of a 30-second commercial, these highly complex, fluid, and ongoing scientific debates are radically simplified and packaged as static truths. Consequently, public understanding of many complex issues becomes a battleground between scientific facts and misinformation, both competing to define the core takeaway, or “gist,” of the message. According to Reyna (2020), individuals possess a cognitive preference for processing simple, bottom-line summaries rather than intricate details, which explains common public misconceptions regarding antibiotic efficacy, vaccine safety, and large-scale crises like climate change. Rather than relying on technical nuances, this intuitive “gist” relies on a person’s existing knowledge and experiences, ultimately driving emotional responses and invoking deeply held social values (Reyna, 2020). Commercial discourse capitalizes on this cognitive preference; by abstracting complex biological variations, the advertisement reframes scientific nuance as an immediate health deficit to legitimize the commercial necessity of specialized nutrition.

### Scientific Quantification and Biomedical Authority (RQ1)

A secondary key discursive strategy to answer RQ1 involves the intensive use of scientific terminology and numerical quantification, epitomized by the claim that the product delivers “*5.7 billion probiotics*” and contains “*Synbio+*”. In persuasive media, numerical precision functions as a vital rhetorical device to signal empirical precision, technological validation, and scientific truth.

From a CDA perspective, this represents a stark manifestation of *interdiscursivity*, where the technical lexicon of laboratory medicine is absorbed into consumer advertising. The phrase “*Synbio+*” works as a proprietary biomedical signifier, suggesting an exclusive technological breakthrough. The deployment of “*5.7 billion*” does not merely inform the consumer of the formula's biochemical makeup; it symbolically aligns the brand with institutional expertise.

This aligns with observations by Jiang et al. (2025) regarding the rapid commercialization of probiotic strains from laboratories to functional food markets, where quantitative packaging signals advanced safety and efficacy to consumers. Crucially, the *acoustic tracking* of this segment enhances its authority. As shown in Table 1, these technical phrases are delivered by a narrator utilizing a deep, calm, “clinical” baritone voice. This paralinguistic choice invokes the authoritative discourse of science—what Jürgen Habermas terms the “System World”—to bypass emotional skepticism and demand epistemic trust from the listener.

### Linking Immunity to Cognitive Futures (RQ2)

The central slogan, “*stronger immunity, smarter future,*” serves as the core ideological anchor of the advertisement, directly addressing RQ2. Linguistically, the phrase relies on a parallel grammatical structure that juxtaposes two distinct semantic domains: physiological immunology (“*stronger immunity*”) and cognitive-economic success (“*smarter future*”). By fusing these domains into a single conditional trajectory, the advertisement discursively implies that a child's long-term intellectual performance is dependent upon their early-life nutritional management.

This framing introduces a highly disciplined temporal narrative where current product consumption manufactures future socio-economic advantages. The product is thus elevated from a basic dietary supplement to an essential biological asset. This discursive expansion mimics the marketing tactics highlighted by Aureoles-García et al. (2025), where digital formula claims exploit parental desires for cognitive optimization to increase product value. Through this linguistic link, nutrition is decoupled from standard bodily sustenance and re-imagined as an engine of developmental enhancement.

### Reproducing Ideologies of Competitive Parenting (RQ2)

When evaluated collectively, these discursive and multimodal strategies actively reproduce broader cultural anxieties rooted in intensive and competitive parenting ideals. The advertisement shifts the moral burden entirely onto the parents, framing them as individual risk-managers who must actively insulate their children from biological vulnerabilities while maximizing their competitive potential.

As global public health studies indicate, exposure to formula marketing normalizes these consumption choices, rendering them expressions of maternal love and responsibility (Horwood et al., 2024). In this radio text, the multimodal arrangement is vital in masking the underlying anxiety of risk. The advertisement alternates the clinical baritone narration with an upbeat, playful, and melodically rising musical jingle (“*Mmm, Aptamil KID!*”).

Applying the multimodal frameworks of Kress and van Leeuwen (2021) and Baldry and Thibault (2006), this acoustic texture functions as an affective strategy. The warm, domestic music softens the clinical severity of the biological deficit narrative, bathing the listener in an acoustic environment of comfort, corporate safety, and optimism. Consequently, the advertisement promotes a broader neoliberal ideology of child optimization, instructing parents that purchasing specialized, technically engineered products is a fundamental requirement to ensure their child's survival and success in a competitive future.

### The “Smarative Child”: Nutritional Engineering and Competitive Childhood

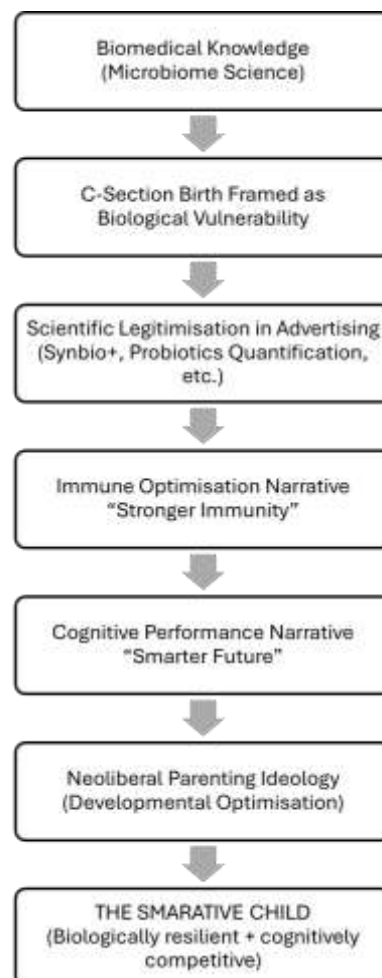
The distinct discursive patterns identified across the linguistic and auditory tracks of the Aptamil KID advertisement converge to construct a novel ideological figure that this study conceptualizes as the “**Smarative Child**”. Derived from the blending of *smart* and *competitive*, the Smarative Child represents a discursive idealization of childhood wherein physiological resilience and intellectual optimization are treated as

interdependent properties that can be systematically engineered through commercial consumption. Within this framework, childhood is re-imagined as a continuous project of biological and cognitive self-management.

Within the advertisement, the construction of the Smarative Child is operationalized through two interconnected discursive mechanisms:

1. **The Pathologization of Delivery Mode:** The repeated focus on “*C-section born children*” transforms a common surgical birth path into an object of biological concern, establishing an immediate demand for specialized nutritional correction.
2. **The Synthesis of Biology and Performance:** The slogan “*stronger immunity, smarter future*” establishes a direct causal continuum between a child’s internal microbiome health and their future socioeconomic performance. Physical health is no longer presented as an end in itself, but as the foundational capital required to maximize intellectual development.

These strategies transform nutritional choices into an urgent biopolitical task. Scientific jargon such as “*Synbio+*” and numerical assertions like “*5.7 billion probiotics*” provide the empirical scaffolding necessary to make this engineering project appear credible, scientifically accurate, and safe (Jiang et al., 2025). Figure 1 illustrates this integrated discursive process.



**Figure 1 Discursive construction of the “Smarative Child” in Aptamil KID advertising**

As mapped in Figure 1, the advertisement strategically mobilizes the language of microbiome science to construct C-section delivery as a site of potential biological risk. This risk narrative creates the conditions under which specialized formula can be legitimized as an essential intervention. The discourse then uses parallel semantic structures to link this optimized immunity with future cognitive success, ultimately reframing parental purchasing decisions as an act of developmental investment.

This multi-layered process mirrors wider structural transformations in contemporary governance described by Rose (2007), where health outcomes are increasingly privatized and treated as matters of continuous personal optimization and risk-management. Under this biopolitical regime, the human body becomes highly quantified, requiring continuous tracking and intervention. The Smarative Child represents the extension of this logic into early childhood. By linking internal biology with external competitive futures, the advertisement successfully redefines formula consumption as an essential technology of parental love, intensive responsibility, and biological engineering.

## CONCLUSION

This study examined how the Aptamil KID (C-SynB) radio advertisement constructs persuasive narratives about specialized nutrition for C-section-born children. Using Critical Discourse Analysis alongside Multimodal Discourse Analysis, the study analyzed the linguistic and sonic features of the advertisement to uncover how commercial discourse frames biological risk, parental responsibility, and childhood development. By focusing on an audio-only promotional format, the research expands the empirical scope of advertising discourse studies beyond the heavily researched domains of visual print, digital, and social media environments.

With regard to **RQ1**, the findings demonstrate that the advertisement constructs a subtle narrative of biological deficit associated with Caesarean-section delivery. Through repeated references to "*C-section born children*," the advertisement discursively transforms a routine surgical delivery path into a distinct, problematic biological category requiring commercial intervention. This pathologization of delivery mode creates the conditions under which specialized formula appears as a rational, necessary solution to a perceived biological vulnerability. The strategic incorporation of proprietary scientific terminology such as "*Synbio+*" and numerical quantifications like "*5.7 billion probiotics*" works as an interdiscursive rhetorical device. Delivered through a calm, clinical baritone voiceover, these features signal technological sophistication and biomedical credibility, effectively translating complex, ongoing microbiome scientific debates into a simplified, authoritative consumer imperative.

Regarding **RQ2**, the analysis reveals that the advertisement actively reproduces broader neoliberal cultural narratives surrounding competitive parenting and early childhood optimization. The central slogan, "*stronger immunity, smarter future*," plays a pivotal role by constructing an artificial causal link between internal physiological resilience and long-term cognitive or socioeconomic success. By associating immune health with future intellectual advantage, the advertisement extends the significance of nutritional consumption from basic dietary sustenance to a long-term capital investment in the child's future competitiveness. This messaging resonates deeply with modern cultural mandates of "intensive parenting," where caregivers are expected to continuously manage biological risks and engineer optimal developmental trajectories for their children. On the auditory track, the use of an upbeat, melodic jingle and enthusiastic singing acts as an affective strategy, creating an atmosphere of safety and optimism that softens the anxiety of biological risk while normalizing consumer choice as an expression of parental love and responsibility.

Building on these insights, this study proposes the novel concept of the "**Smarative Child**" to describe the distinct discursive figure produced through these overlapping marketing narratives. The Smarative Child represents an imagined, optimized developmental ideal in which physical health and cognitive competitiveness are fused into a single aspirational outcome through narratives of nutritional engineering. Within this framework, a child's immune system and intellectual capacities are portrayed as quantifiable, interdependent domains that can—and must—be maximized through strategic parental purchasing practices.

This conceptualization reflects broader biopolitical transformations in contemporary societies where biomedical knowledge increasingly disciplines everyday understandings of the human body and subjectivity. As theorized by Rose (2007), modern forms of governance encourage individuals to engage in continuous biological self-management, treating health outcomes not as matters of chance, but as moral responsibilities to be regulated via technological interventions. Formula advertising serves as a critical arena where these broader biopolitical ideas are translated into consumer discourse, using datafied metrics and self-tracking values to govern parental anxieties.

The findings of this study contribute significantly to ongoing debates about the role of commercial communication in shaping parental perceptions of child health and infant feeding. By synthesizing microbiome science, immune optimization, and cognitive performance into a singular promotional narrative, formula marketing risks oversimplifying scientific knowledge, pathologizing normal developmental variations, and reinforcing highly individualized, stressful expectations of parental responsibility.

Several limitations of the present study should be acknowledged. First, the analysis focuses on a single, 30-second radio advertisement, which limits the immediate generalizability of the findings across the wider formula marketing landscape. Future research could expand the dataset to include multi-channel advertisements across different media platforms to examine whether identical multi-semiotic patterns persist across broader corporate campaigns. Second, this research focuses primarily on the textual and sonic features of the advertisement rather than audience reception. Investigating how diverse groups of parents actively interpret, resist, or internalize these marketing narratives would provide valuable, real-world empirical insights into the direct impact of these discursive constructions.

Despite these limitations, this study highlights the pressing importance of critically examining the multi-semiotic strategies through which commercial discourse shapes societal understandings of childhood health, development, and care. As formula marketing continues to incorporate sophisticated biomedical claims, analyzing the discursive architectures underlying these messages becomes a vital task for health communication scholars and public health advocates alike. Ultimately, the concept of the Smarative Child provides a critical lens for understanding how contemporary corporate discourse reimagines childhood development as a project of intensive nutritional engineering, positioning parental purchasing decisions as the primary arbiter of a child's biological and intellectual future.

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