



More than just playing: can gamified advertising targeting children be used for a good cause?

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Abstract

This paper investigates whether gamified advertising targeting children can be leveraged for positive societal causes, synthesizing insights from Saleme et al. (2020), Kuswandi and Fadhli (2022), Gkintoni et al. (2024), and established best practices in gamified content design. Besides the ethical critocs, by integrating game mechanics with educational and social messages, gamification has demonstrated efficacy in enhancing empathy, improving cognitive development, and encouraging healthier behaviors among children and adolescents.

This research contributes to the growing discourse on ethical advertising practices, offering actionable insights for stakeholders, including educators, marketers, and policymakers—on leveraging gamified approaches responsibly. It highlights the potential for gamification to address pressing societal challenges, such as improving early learning outcomes, fostering emotional intelligence, and promoting healthier lifestyles. By bridging the gap between commercial objectives and societal benefits, this study underscores the transformative power of gamified advertising in creating meaningful, positive impacts for future generations.

Keywords: Gamification, digital marketing, marketing to children, Generation Z

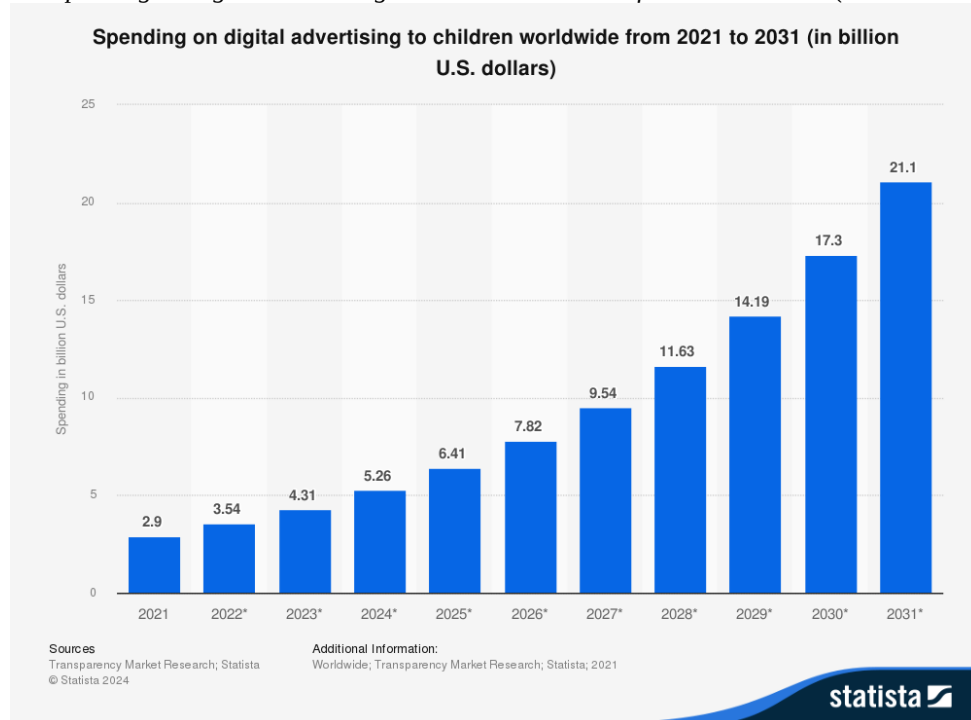
1. Introduction

Gamification—the integration of game elements into non-game contexts—has become a powerful tool in advertising. Children, being highly responsive to interactive and engaging media, are particularly susceptible to gamified ads. Traditionally, this susceptibility has raised ethical concerns due to manipulative tactics often used to drive unhealthy consumer behavior. However, with the rise of prosocial and educational gaming, a new question emerges: Can these same tools be redirected toward positive ends?

In recent years, gamification—defined as the use of game design elements in non-game contexts—has become a prevalent strategy in digital marketing, particularly in advertising directed at children. Brands increasingly embed gamified elements in mobile apps, social media, and websites to engage young audiences more deeply, encouraging prolonged

interaction and brand loyalty. However, this trend has prompted growing ethical concerns regarding the exploitation of children's cognitive vulnerabilities and emotional susceptibilities, especially when such strategies prioritize commercial interests over child welfare. Critics are mainly directed toward children's obesity, product recall, and in some cases snobism.

Figure 1: Spending on digital advertising to children worldwide from 2021 to 2031 (in billion U.S. dollars)



Source: Worldwide, Transparency Market Research; Statista; 2021

Despite these concerns, emerging research suggests that gamification may also serve as a powerful tool for social good. When designed responsibly, gamified advertising can encourage prosocial behavior, support emotional development, and promote healthier lifestyles among children and adolescents. Studies such as those by Saleme et al. (2020) and Kuswandi and Fadhli (2022) demonstrate that educationally oriented and ethically framed gamified content can lead to improved learning outcomes and foster positive psychological traits like empathy and cooperation. For instance, Saleme et al. highlight the role of gamification in health education, showing that children engaged in gamified experiences are more likely to absorb and retain crucial health-related knowledge.

The current study seeks to explore how gamified advertising, often criticized for its manipulative potential, might be repurposed for constructive and socially beneficial ends. By synthesizing insights from recent empirical studies and best practices in game-based content design, this paper aims to assess whether gamification in child-directed advertising can be ethically implemented to nurture well-being and development. Hence, the Research Questions are identified:

1. How can gamified advertising targeting children be designed to promote prosocial behaviors and holistic well-being rather than merely serving commercial objectives?
2. What ethical frameworks and design principles should guide the development of gamified advertisements aimed at children to ensure their positive **societal impact**?

1.1 Data Collection and Meta-Analyses Methodology

This study employed a **qualitative meta-analytic approach**, drawing from principles of **integrative literature review** and **meta-synthesis** to systematically assess empirical and conceptual studies on gamification directed at children and adolescents.

1.1.1 Literature Search Strategy

A structured literature search was conducted across major academic databases: **Scopus, Web of Science, Google Scholar, and ScienceDirect**. The following Boolean search string was used to capture a broad yet relevant body of work:

("gamif* OR game-based OR advergame OR serious games OR persuasive games")

AND ("children OR youth OR adolescents OR early education")

AND ("marketing OR advertising OR ethics OR empathy OR prosocial OR health")

This search yielded **80 articles** published between **2007 and 2024**. To ensure relevance and quality, the following **inclusion criteria** were applied:

- Peer-reviewed journal articles or conference papers
- Focus on gamification targeting individuals under the age of 18
- Empirical studies with measurable outcomes or theoretical/conceptual works with defined analytical frameworks
- Explicit relevance to ethical, persuasive, or prosocial dimensions of gamification

Articles were **excluded** if they:

- Focused exclusively on adult populations
- Were non-peer-reviewed (e.g., white papers, editorials, blogs)
- Concentrated solely on game mechanics without addressing behavioral, ethical, or educational outcomes

After screening for duplicates and applying criteria, **19 studies** were retained for full analysis.

1.1.2 Coding and Thematic Synthesis

Each selected study was reviewed using a **structured coding matrix**. This matrix operationalized three core thematic axes drawn from both developmental psychology and communication ethics:

1. **Intent and Transparency** – Assessment of how clearly persuasive or educational objectives were communicated to child users.
2. **Developmental Alignment** – Evaluation of the extent to which content matched the cognitive, emotional, and ethical maturity levels of the target age group.
3. **Societal Impact** – Analysis of the broader outcomes promoted by the gamified content, including empathy, health behaviors, literacy, and inclusion.

In addition to thematic content, each study was coded for methodological rigor (e.g., sample size, research design, measurement of effect sizes where reported), allowing for comparative insights across diverse study types.

1.1.3 Meta-Analytic Approach

Rather than aggregating quantitative effect sizes (as in traditional statistical meta-analyses), this study used a **qualitative meta-synthesis** technique. This involves integrating findings across empirical and conceptual studies to identify patterns, contradictions, and gaps in

literature. The process emphasizes **cross-study comparison** and **theoretical integration** over statistical generalization.

This integrative meta-analytic approach is particularly suited for complex, interdisciplinary topics such as gamification in child-targeted media, where studies often vary in method, scope, and outcome metrics.

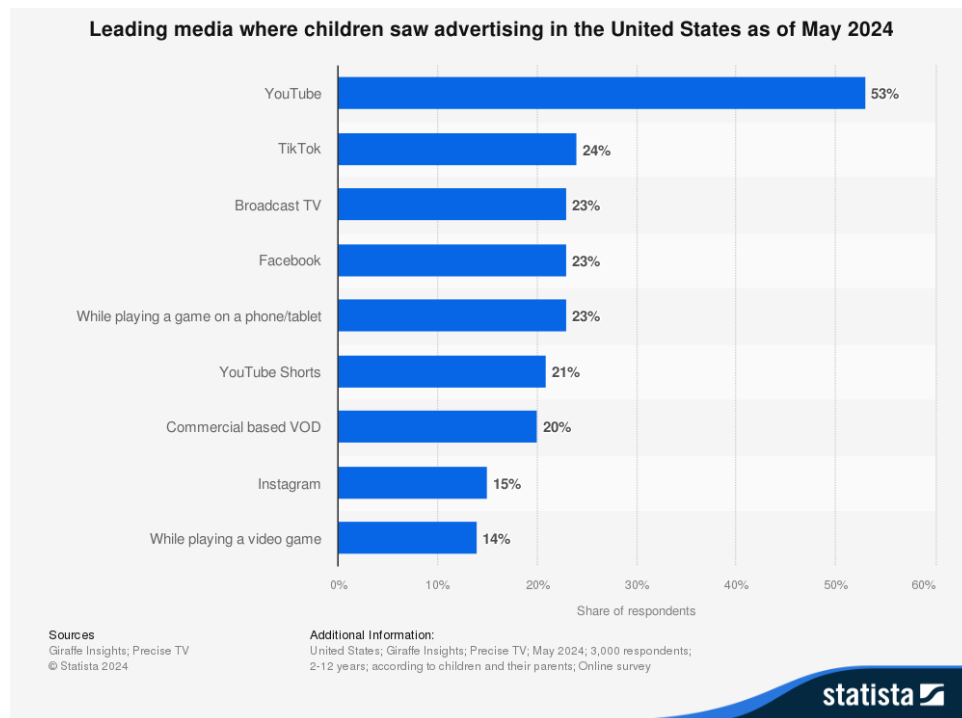
2. Literature Review

Gamification has emerged as a potent tool in digital advertising, increasingly directed at children through platforms such as advergames, branded mobile apps, and interactive web content. While this strategy promises deeper engagement rate across all demographic groups, it also raises pressing ethical questions about manipulation and consent in an audience that is cognitively and emotionally still developing.

Research indicates that children under 12 are particularly vulnerable to these tactics due to their underdeveloped cognitive abilities, which hinder their ability to distinguish between organic and promotional content (Rozendaal & Buijzen, 2023). This vulnerability is exacerbated by the immersive and interactive nature of gamified ads, which can blur the lines between play and persuasion (Lapierre et al., 2017). Studies have shown that children exposed to advergames often develop more positive attitudes towards the advertised brands compared to traditional TV ads (Rozendaal et al., 2022). This suggests that the persuasive power of gamified content is significantly higher, making it a more effective yet ethically contentious method of advertising to young audiences.

Moreover, the ethical implications extend beyond mere persuasion. The lack of advertising literacy among children means they are less equipped to critically evaluate the intent behind these ads, leading to potential manipulation (Rozendaal & Buijzen, 2023). This raises important questions about the responsibility of marketers and the need for stricter regulations to protect this vulnerable demographic from exploitative advertising practices (Lapierre et al., 2017). Additionally, influencer marketing, which often employs gamified elements, further complicates the landscape. Naumovska (2023) highlights that children's buying behavior is significantly influenced by such marketing strategies, underscoring the need for ethical considerations and protective measures.

Figure 2: Leading media where children saw advertising in the United States as of May 2024



Source: United States; Giraffe Insights; Precise TV; May 2024; 3,000 respondents; 2-12 years; according to children and their parents; Online survey

By understanding these dynamics, researchers and experts can better appreciate the ethical challenges posed by gamified advertising and advocate for more robust protective measures to safeguard children's well-being in the digital age.

2.1 Negative aspects of gamified advertising targeting children

The above meta-analysis underscores the dangers inherent in current gamified advertising practices. Advergaming and in-game branding can distort children's understanding of marketing and reduce their critical thinking. For example, Ghosh et al. demonstrated that children are highly responsive to brand characters embedded in gameplay, often forming long-term preferences. Similarly, Thorpe and Roper found a general lack of transparency, with ethical violations including poor labeling and non-consensual data collection.

Moore and Rideout (2007) highlight that online food marketing often disguises branded content in the form of games, obscuring persuasive intent behind playfulness. This format, known as "advergaming," has been shown to subtly influence children's food choices, often promoting unhealthy options. Their work underscores a critical concern: gamification, when left unregulated, as one of many risks, may exacerbate childhood obesity and reinforce harmful consumption behaviors.

Ghosh, Sreejesh, and Dwivedi (2020) offer a comparative perspective on in-game advertising versus advergaming, concluding that advergaming is significantly more persuasive due to their immersive and interactive nature. Their findings suggest that the effectiveness of gamified marketing is both a strength and a liability—it can foster brand attachment as easily as it can promote socially beneficial behaviors, depending on how it's used.

From a theoretical lens, Kim and Werbach (2016) examine the broader ethical implications of gamification, warning against its tendency to "nudge" behavior without

informed consent. They argue that gamification must be evaluated not only by its outcomes but also by the transparency and autonomy it affords users. Thorpe and Roper (2019) reinforce this view in the marketing context, stressing that marketers must balance persuasive intent with ethical considerations, particularly when targeting vulnerable populations such as children.

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2.2 Turning gamification into a force for good

Despite its pitfalls, gamification also holds transformative potential. Saleme et al.'s comprehensive review shows that when designed for prosocial purposes, games can improve moral reasoning and peer relationships. There is a growing body of research suggesting that gamification can be wielded for prosocial and educational ends. Kuswandi and Fadhli (2022) demonstrate that gamified reading interventions significantly enhance early literacy among children, especially when cognitive styles are considered in the design. Their results underscore the importance of personalization and inclusivity in gamified educational content. Lamrani and Abdelwahed's (2022) findings point to increased academic performance, especially in underserved communities, advocating for play-based digital learning rooted in the Montessori approach. Their implementation of serious games for children in rural Morocco illustrates that gamification, when grounded in educational neuroscience and pedagogical frameworks, can increase attention, motivation, and emotional engagement—key factors for successful learning outcomes. Nand et al. and Kuswandi & Fadhli further validate the educational impact of gamification. Their work shows that well-structured game mechanics can significantly boost motivation, retention, and cognitive development. The key, as the data shows, lies in aligning game elements with educational objectives and children's psychological profiles.

Kalpana Nand et al. (2022) expand this discussion by integrating adaptive technologies, such as AI and gamified learning systems, to promote inclusive education. Their research illustrates how real-time feedback, scaffolding, and engagement loops embedded in gamified environments can bridge gaps in literacy and numeracy, especially for children with different learning needs or in underserved areas.

Finally, Saleme et al. (2020) provide a comprehensive review of digital games designed to encourage prosocial behavior in youth. Their synthesis shows that well-designed games can improve empathy, reduce aggression, and foster collaborative skills—particularly when evaluated through rigorous, theory-driven frameworks. In contrast to commercial applications where the primary aim is brand engagement or product conversion, these prosocial games emphasize behavioral change, emotional regulation, and social connectedness—outcomes that align more closely with child development goals.

Together, these studies reveal a dual-edged potential: gamification in advertising can either manipulate or empower. The key lies in the intent behind the design, the ethical boundaries observed, and the developmental needs of the child. While commercial advergAMES often blur the line between entertainment and persuasion, ethically guided gamification—rooted in pedagogy and cognitive science—can promote literacy, empathy, and healthier lifestyles.

The sharp ethical divide between commercial and constructive gamification becomes evident when comparing works like Moore and Rideout (2007) with Kim and Werbach (2016). The former describe how advergAMES for unhealthy foods often conceal marketing motives and circumvent parental oversight. Such practices raise significant concerns about autonomy, informed consent, and the long-term impact of repeated exposure to manipulative game environments.

Conversely, ethics-centered analyses by Kim and Werbach (2016) and Thorpe and Roper (2019) advocate for transparency, informed design, and safeguarding users' autonomy. These scholars recommend a value-sensitive design (VSD) approach, which ensures that gamified systems reflect and respect the rights and developmental needs of users—especially children.

This distinction is also reflected in the persuasive effectiveness of gamified platforms. Ghosh et al. (2020) show that advergAMES, while more engaging than passive advertisements, can blur the line between content and marketing, complicating the ethical landscape. However, this same persuasive power—if redirected—can be a powerful asset for public health, environmental education, or digital literacy initiatives.

To harness gamification for good, ethical frameworks must be integrated into the design and deployment of such content. These include:

- Transparency in distinguishing games from advertisements
- Age-appropriate content and difficulty levels
- Involvement of educators and child psychologists in game development
- Parental control and opt-in data policies

Collaborative models between developers, educators, regulators, and parents can ensure that children are protected while benefiting from the educational and social gains gamification can offer. Based on the synthesis of the 19 studies in this meta-analysis, this paper proposes a new applied framework for ethical and prosocial game design for children, called the “**E³ Framework**”—**Engage, Educate, Empower**.

The **E³ Framework** is designed to guide developers, educators, and marketers in creating gamified content that not only avoids harm but actively fosters children's cognitive, emotional, and ethical development. It integrates insights from Saleme et al. (2020), Kuswandi & Fadhli (2022), and Nand et al. (2022), while also responding to ethical imperatives identified by Kim & Werbach (2016) and Thorpe & Roper (2019).

The E³ Framework consists of three pillars:

1. **Engage** – Capture attention using developmentally appropriate game mechanics.
 - Use age-aligned interactivity and visuals to stimulate interest.
 - Integrate inclusive character representation and storylines that reflect diverse identities and experiences.
 - Apply adaptive design (e.g., real-time feedback) to maintain interest across different learning levels.
2. **Educate** – Embed learning goals and prosocial values into gameplay.
 - Align content with developmental milestones (e.g., empathy, cooperation, literacy).
 - Use narrative-based challenges to promote critical thinking and moral reflection.
 - Collaborate with educators to ensure content relevance and pedagogical grounding.
3. **Empower** – Promote autonomy, reflection, and real-world transfer.
 - Make game goals transparent, encouraging self-directed learning and choice.
 - Include mechanisms for parental and educator involvement (e.g., progress dashboards, opt-in permissions).
 - Facilitate “beyond-the-game” activities to reinforce learning outcomes in daily life.

By applying the E³ Framework, stakeholders can transform gamified advertising into a **values-driven educational tool**, shifting from commercial manipulation to developmental enrichment. This framework fills the current gap between ethical critique and practical implementation, offering a roadmap for future game-based campaigns aimed at youth.

Pillar	Objective	Key Design Principles	Example Applications
Engage	Capture attention in an ethical, age-appropriate way	- Use developmentally aligned visuals and interactions- Include inclusive character design- Incorporate adaptive mechanics for varying skill levels	Interactive story games with diverse characters and choice-based outcomes
Educate	Embed meaningful learning or prosocial content	- Align with educational and emotional development goals- Integrate prosocial themes (e.g., empathy, cooperation)- Co-design with educators and child psychologists	Gamified health education or digital literacy games aligned with curricula
Empower	Promote autonomy and reflection; support real-world impact	- Transparent goals and game purpose- Parental and teacher engagement tools- Opportunities for real-life application beyond the screen	Games that unlock at-home missions or classroom discussions based on in-game actions

3. Conclusion

Gamification in advertising targeting children is a powerful yet controversial tool. While current practices often exploit children's vulnerabilities for commercial gain, there exists a significant opportunity to repurpose gamification for educational, ethical, and prosocial outcomes. Common findings across the literature highlight key themes: children are particularly responsive to gamified interactions; transparency and ethical oversight are lacking in many commercial games; and when gamification is applied with educational or prosocial intent, it consistently produces measurable improvements in behavior, learning outcomes, and engagement.

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Addressing Research Question 1: The synthesis of research from Saleme et al., Nand et al., and Lamrani & Abdelwahed demonstrate that game-based strategies can foster empathy, cognitive development, and early learning. This shows how gamified advertising can be designed to promote prosocial behaviors and holistic well-being.

Addressing Research Question 2: Meanwhile, critiques from Ghosh et al., Thorpe & Roper, and Kim emphasize the need for better regulation and ethical design. This highlights

the ethical frameworks and design principles necessary to ensure the positive societal impact of gamified advertisements aimed at children.

This study proposes the *E³ Framework*—Engage, Educate, Empower—as a practical model to guide ethical gamified advertising for children. It synthesizes insights across disciplines to provide actionable guidance for developers and educators, bridging the gap between academic critique and real-world application.

By building on these collective insights, we can shift the narrative from manipulation to empowerment, transforming games from mere entertainment into tools for a better future.

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Anex 1: Summary of Key Studies Included in the Meta-Analysis

Author(s)	Year	Focus	Type	Sample/Context	Key Findings	Ethical/Design Notes
Saleme et al.	2020	Prosocial digital games	Systematic review	11 studies on children/adolescents	Games enhanced empathy, prosocial behavior, and SEL skills	Highlights need for better theoretical grounding and observed outcomes
Kuswandi & Fadhli	2022	Gamification for early reading	Empirical study	75 children, Indonesia	Improved literacy tied to cognitive style and personalized gamification	Stresses cognitive fit and feedback loops
Lamrani & Abdelwahed	2022	Serious games in early education (Montessori)	Case study + evaluation	Rural Moroccan preschoolers	Gamified Montessori activities improved literacy, math, life skills	Based on neuroscience & the 4 pillars of learning

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Moore & Rideout	2007	Food marketing via advergames	Theoretical/empirical	U.S. online food industry	Advergames heavily used to promote unhealthy foods	Marketing intent often hidden; persuasive design not age-appropriate
Ghosh, Sreejesh & Dwivedi	2020	In-game ads vs. advergames	Comparative experiment	240 participants	Advergames were more persuasive due to immersion and interactivity	Suggests high persuasive power may be used constructively or manipulatively
Kim & Werbach	2016	Ethical theory of gamification	Theoretical analysis	Cross-sector, including children	Defined ethical pitfalls: manipulation, lack of consent, etc.	Proposes ethical gamification as values-based design
Thorpe & Roper	2019	Ethics of gamification in marketing	Conceptual framework	Children and consumer rights	Calls for balance between persuasion and protection	Suggests need for regulations and transparency
Nand et al.	2022	AI-driven adaptive gamification	Experimental design	Primary learners, NZ & UK	Adaptive feedback improved engagement and achievement	Points to personalization as key to ethical and effective learning