

EFFECT OF THREATENING/HUMOROUS TELEVISION ADVERTISING ON CHILDREN'S BEHAVIOURAL INTENTION TO BE CONCERNED ABOUT THEIR ENVIRONMENT

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Received: 2025-05-09

Accepted: 2025-09-23

Published online: 2025-10-14

Abstract

Most research on ecological consumer sensitivity has focused on adults, leaving children's perceptions and behaviours toward environmental issues largely underexplored. Yet, as today's children are tomorrow's adults, it is crucial to examine how they develop pro-environmental behavioural intentions. The objective of this study is therefore to analyse the influence of ecological television advertising on children aged 8 to 12, by comparing two persuasive approaches: fear and humour.

An experimental study was conducted with a sample of 270 schoolchildren, who were exposed to two ecological television advertisements, one threatening and the other humorous. Data were collected through validated measurement scales and analysed using logistic regression with the Binary Logit Model, in order to estimate the probability of children adopting environmentally responsible behavioural intentions after exposure.

The findings demonstrate that children primarily process advertising messages on an affective level. Humorous ecological advertisements are more effective than threatening ones in fostering pro-environmental behavioural intentions, as they influence both emotional reactions and beliefs. In contrast, threatening appeals work mainly through negative emotions, with limited impact on beliefs.

This study contributes to the literature on green marketing and child consumer behaviour by highlighting the role of emotions and beliefs in ecological socialisation. From a managerial perspective, the results suggest that educators, policymakers, and communication specialists should prioritise humorous, engaging ecological campaigns in order to effectively raise children's awareness and foster sustainable habits from an early age.

Keywords: Ecological behaviour, Advertising, threatening advertising, humorous advertising, children's behavioural intention.

Introduction

The growing concern for environmental preservation continues to intensify, primarily due to rising pollution levels and the excessive exploitation of both renewable and non-renewable resources aimed at satisfying consumer needs and desires. In a postmodern context, individuals have gradually shifted away from the pursuit of

unconscious desires and irresponsible consumption, toward more utilitarian practices that promote responsible behaviour toward society and the ecological environment.

The ecological movement is therefore grounded in a rationale that encourages individuals to prioritise environmental preservation in their daily lives. At this level, strengthening the human–environment relationship has become crucial, as it is increasingly affected by human activities and rapid technological progress (Soper, 1995; Hategan, 2021).

Marketing, as a discipline centred on analysing consumer behaviour, must adapt to these social and environmental changes. The rising importance of ecology has given birth to a research stream referred to as “environmental marketing,” “green marketing,” or “ecological marketing” (Muller & Ekwa, 2020; Niedermeier et al., 2021; Yuan et al., 2022). This stream is based on the principle that *human activities are the primary contributors to environmental degradation and that halting this process requires a radical change in consumer behaviour* (Giannelloni, 1998).

Consumers are thus expected to adopt behaviours that fulfil their needs while minimising their negative impact on nature. This shift has led to the emergence of a new consumer profile—the *environmentally concerned consumer*. The conceptualisation of environmental concern (EC) has enabled researchers to identify the characteristics of this consumer profile. Given the severity of today’s ecological challenges, redirecting consumer attention toward environmental concern is more necessary than ever to ensure a sustainable future.

Since today’s children will become tomorrow’s adults, they represent a crucial target group for understanding attitudes toward the environment. However, most research on environmental concern focuses on adults, with relatively few studies examining children. Existing child-focused studies tend to concentrate on socialisation processes through communication channels. Among these, television plays a particularly influential role, shaping lifestyles and consumption behaviours. Children, who now spend more time in front of screens than with their families, are especially exposed to advertising messages. Despite this, limited research has explored the link between children, television advertising, and environmental concern.

Traditionally, advertisers have targeted adults to raise awareness of ecological issues, overlooking the significant potential children have in shaping environmentally responsible behaviour. Yet, evidence suggests that younger audiences are more receptive to initiatives designed to influence their attitudes and behaviours toward environmental preservation.

Accordingly, the objective of this research is to examine the influence of ecological television advertising on children’s intentions regarding environmental concern. More specifically, the study seeks to identify the most effective advertising

approach—humour or fear—in stimulating environmental concern among children. The guiding research question is therefore:

What is the impact of humorous versus threatening ecological television advertising on children's behavioural intention toward environmental concern?

This central question leads to the following sub-questions:

- To what extent are children sensitive to and able to understand environmental issues?
- What are the effects of ecological television advertising on the cognitive, affective, and conative development of children?
- How does humour influence advertising persuasion among children?
- How does fear influence advertising persuasion among children?

The expected contribution of this study lies in analysing children's behavioural intentions toward environmental concern while identifying whether humour or fear is more effective in ecological advertising aimed at children.

1. Conceptual Framework of the Research

1.1 Ecological Emergences

The wealth of the most developed countries was built during the Industrial Revolution of the 19th century through the massive and intensive exploitation of renewable and non-renewable resources. This process led to severe environmental degradation, including increased atmospheric pollution, aggravated climatic imbalances, and the progressive disappearance of wildlife and flora. With the transition from modern to postmodern society, a new consumer profile emerged—the postmodern consumer—who is more sensitive to ethical and ecological movements. Marketing researchers describe this consumer as “smart and savvy, hedonistic and independent” (Van De Walle & Brice, 2011), engaging in consumption that extends far beyond the tangible attributes of products or services. The growing interest in ethics and ecology has consequently contributed to the rise of green marketing, which reflects the increasing integration of environmental concerns into consumer behaviour.

This form of marketing, more humane and respectful of nature, is based on the principle that *human activities are the primary contributors to environmental degradation, and therefore, a radical change in behaviour is required to halt this process*. Juran (2023) highlights the conceptual, political, economic, and social challenges that must be overcome to achieve an effective ecological transition (Swim et al., 2020).

The objective is to cultivate ecological and ethical awareness among consumers and society at large, in order to promote development that is economically sustainable, socially equitable, and environmentally responsible. This focus on the relationship between consumption and the environment led, as early as the 1970s, to the conceptualisation of *environmental concern (EC)* and the identification of the defining characteristics of environmentally conscious consumers.

In this context, marketing researchers have defined the ecologically concerned consumer as an individual who *adopts purchasing behaviours consistent with ecosystem conservation* (Kinneer, Taylor, & Ahmed, 1974). Such individuals are also expected to engage in ecological behaviours beyond purchase-related actions, demonstrating an awareness of broader social responsibility (Giannelloni, 1998; Murugesan et al., 2024).

1.2 Children's Sensitivity to Ecological Issues

Ecological awareness and sensitivity to the natural environment can be cultivated from an early age in young consumers. It is therefore essential to examine children's ecological behaviours and the role they may play in fostering environmental concern. The importance of children's education in promoting sustainability was particularly highlighted during UNESCO's *Decade of Education for Sustainable Development* (2005–2014) (Jamee et al., 2024).

Children, who are both vulnerable and unpredictable, have increasingly drawn the attention of marketing researchers. The first studies on children's purchasing behaviour appeared in the 1950s, focusing on brand loyalty and conspicuous consumption (Reisman & Rosenborough, 1955). In the 1960s, the potential of the children's market became more evident, paving the way for deeper exploration of young consumers. From the 1970s onward, research on this topic expanded significantly (Deborah, 2001), providing insights into how children begin to construct their perception of the world. This process is shaped by both cognitive and social development, which bring about major transformations in reasoning abilities and social maturity.

According to Piaget's (1962) theory of cognitive development, children progress through four distinct stages of intellectual growth:

- **Sensorimotor Stage (under 2 years):** Infants begin with a limited set of innate sensory and motor schemas, which are gradually modified through adaptive actions and experience. They learn to reproduce behaviours they find pleasurable, adapting them to their environment (Delécraz, 2018).

- **Preoperational Stage (2–7 years):** Children focus on easily observable aspects of their environment and develop symbolic thinking. This stage is marked by

centration, or the tendency to focus on a single attribute. Cognitive capacities remain limited, and information-processing skills are not yet fully developed.

- **Concrete Operational Stage (7–12 years):** Children begin to process stimuli more thoughtfully, paying attention to multiple dimensions simultaneously. They employ strategies such as evaluation, memorisation, and information-seeking, though they still rely heavily on external cues.

- **Formal Operational Stage (12 years and older):** At this stage, children demonstrate increasingly abstract reasoning and the ability to consider hypothetical situations. They also develop more sophisticated strategies for memorisation and information search, reflecting a more adult-oriented cognitive style.

Age is therefore a key factor in shaping the variety of cognitive abilities and resources available to children (Deborah, 2001). Complementing this perspective, Selman's (1980) social development theory outlines how children gradually learn to understand different viewpoints through successive stages:

- **Stage 1 (ages 3–6):** The *egocentric stage*, when children focus almost exclusively on themselves with little awareness of others' perspectives.

- **Stage 2 (ages 6–8):** Children begin to recognise that others may hold different opinions, attributing these differences primarily to variations in information.

- **Stage 3 (ages 8–10):** Children realise that others can interpret the same information differently.

- **Stage 4 (ages 10–12):** Social interactions become central, and children develop the ability to consider both their own and others' perspectives.

- **Stage 5 (12 years and older):** Adolescents deepen their understanding of situations by integrating broader social contexts.

Some scholars have combined cognitive and social development perspectives to explain *consumer socialisation*—the process through which children acquire the knowledge, skills, and attitudes needed to function as consumers (Moschis & Churchill, 1978). Deborah (2001) describes this process as progressing through three key stages:

- **Perceptual Stage (ages 3–7):** Children rely on perceptual cues and rarely engage in abstract reasoning, reflecting Piaget's (1968) concept of *perceptual limitation* and *centration*.

- **Analytical Stage (ages 7–11):** Cognitive and social development accelerate. Children move from perceptual to symbolic reasoning, apply basic decision-making strategies, and simultaneously consider multiple attributes.

• **Reflective Stage (ages 11–16):** Cognitive and social development become multidimensional. Children acquire more complex knowledge, refined decision-making skills, and an increased sensitivity to social meanings (Deborah, 2001).

These three stages—perceptual, analytical, and reflective—illustrate the evolution of children’s behaviour in terms of reasoning, knowledge, skills, and decision-making, enabling them to position themselves as consumers (Deborah, 2001; Tourette, 2021). Similarly, Tourette-Turgis (2021) identifies three broader periods of development: early childhood (nursery and preschool), primary school, and adolescence (middle and high school). Each period is marked by distinct features: the foundational growth of early childhood, the academic and social investments of primary school, and the transformative changes of adolescence.

1.3 Children's Sensitivity to Television Advertising

A child’s socialisation process and the behavioural changes that accompany it do not occur in isolation. Rather, they result from continuous interaction with family, peers, media, and marketing institutions. In this sense, media and advertising serve as primary sources of consumption-related information (Atkin, 1975b; Gorn & Florsheim, 1985; Robertson, Rossiter & Gleason, 1979).

Advertising today permeates nearly all areas of daily life, particularly with the rapid advancement of technology. It can serve different purposes: commercial, by seeking to increase product or service sales; social, through campaigns addressing issues such as smoking prevention or environmental protection; or political, as in electoral campaigns (Adam & Bonhomme, 2012). In essence, advertising is a “form of communication capable of exerting psychological influence on the consumer to prompt purchase decisions or bring about changes in social behaviour through linguistic and paralinguistic means” (Brochand & Lendrevie, 2001).

Despite the rise of digital technologies, television remains one of the most accessible and influential media channels. It continues to capture the attention of audiences, particularly children, who encounter television advertising on a daily basis (Guichard & Pecheux, 2007). Within the broader framework of children’s ecological socialisation, the role of televised advertising in shaping ecological and social behaviour has been widely documented (Grassi, 2015).

Television advertising is known to play a significant role in children’s ecological socialisation by transmitting cultural meanings and instilling values related to ecological and social responsibility (Preston, 2005). Because children are more vulnerable to advertising messages and less capable of critical analysis or counter-argumentation, they are often considered an ideal target (Dagnaud, 2003). As such, television advertising strongly influences both their consumption patterns and their ecological

awareness (Brée, 2013). This influence is exercised through gradual exposure, which shapes habits, attitudes, and behavioural tendencies conducive to environmental concern (Benoit-Moreau, Larceneux & Parguel, 2010).

Moreover, advertising professionals employ a variety of creative strategies to capture attention and stimulate emotional responses (Durand, 2017). For advertising aimed at children to be effective, it must generate emotions that produce psychological changes and predispose them to act in favour of environmental preservation. Guitouni (2000) defines emotion as a complex paradigm that encompasses feelings, thoughts, psychological and biological states, and the full range of tendencies to act that these evoke. Emotions may be pleasant or unpleasant, but they are always characterised by the intensity of the impressions they create and the vividness of the reactions they provoke.

For this reason, advertisers often rely on humour and fear to achieve their objectives. Research in marketing communication shows that appealing to negative emotions such as fear, alongside positive emotions such as humour, can enhance the persuasive power of advertising messages. These emotional appeals influence the affective, cognitive, and conative responses of the audience, thereby increasing the likelihood of behavioural change (Lavoisier-Mérieux, 2001).

1.4 Humour and Fear in Ecological Television Advertising

Preston (2005) emphasised that television advertising is a powerful medium capable of significantly influencing children's ecological socialisation, thereby raising their awareness of environmental responsibility. Within this context, emotions play a central role in advertising persuasion, especially among children, who are regarded as a highly receptive audience (McQuarrie & Mick, 1996). For children, the emotional dimension of advertising is often more influential than the informational one. Among the strategies used to evoke emotions, fear represents a particularly relevant approach.

Fear is generally defined as a negative emotion triggered in the presence of a perceived threat, which may be social or ecological in nature (Gallopel, 2002). Although fear and threat are distinct concepts, researchers have established a strong reciprocal relationship between them (Gallopel, 2006). Exposure to advertising messages that incorporate fear can create a need for behavioural engagement, reinforcing the recipient's intention to adopt the recommended behaviour. For maximum effectiveness, threatening advertisements should present realistic risks while simultaneously proposing feasible solutions. This approach reduces the intensity of the perceived danger and encourages children to act according to the recommended behaviour (Charry & Pecheux, 2008). In this way, threatening appeals—often used in preventive campaigns—can contribute to social change (Truong et al., 2021).

Eliciting a conative reaction provides evidence of the persuasive power of such advertising. However, it is important to note that children rely more on affective than cognitive mechanisms when processing advertising messages. As a result, while they may not critically analyse threatening advertisements, they may still react emotionally to them—sometimes challenging the recommended behaviour or responding in ways shaped primarily by affective processes (Charry & Pecheux, 2008). The intensity of fear-related emotions can, nevertheless, positively influence persuasion and strengthen children's intention to adopt environmentally responsible behaviours (Lavoisier, 2002). Moreover, Gallopel (2006) pointed out that beliefs regarding the recommended behaviour also play a role in shaping behavioural intentions.

Based on these observations, the first hypothesis is proposed:

H1: Exposure to a threatening ecological advertisement increases the probability of behavioural intention toward environmental concern in children.

From this hypothesis, two sub-hypotheses are derived. They aim to clarify the potential relationships between affective and cognitive responses to a threatening ecological advertisement and children's behavioural intentions toward environmental concern. The sub-hypotheses are as follows:

H1.1: There is a positive effect between the creation of negative emotions in the child following exposure to a threatening ecological advertisement and their ecological behavioural intention.

H1.2: There is a positive effect between the child's beliefs following exposure to a threatening ecological advertisement and their ecological behavioural intention.

Beyond fear-based appeals, humour is also recognised as a powerful strategy in advertising directed at children. Humorous messages are often more persuasive than non-humorous ones and can enhance the effectiveness of the recommended behaviour communicated in the advertisement. Such messages encourage changes in habits and behaviours that support environmental protection.

As previously highlighted, children are more responsive to affective than cognitive cues when processing advertisements. The affective dominance in this context amplifies humour's impact, as it fosters positive emotions—such as joy and amusement—that can directly influence behavioural intentions. The arousal of these pleasant emotions disrupts routine patterns, creating a favourable atmosphere for persuasion (Belch, 2005). Consequently, humorous advertisements not only capture attention but also strengthen the child's willingness to adopt recommended ecological behaviours.

Furthermore, humorous advertising can also shape children's beliefs about the promoted behaviours. Exposure to exaggerated or hyperbolic humour in ecological

advertisements can influence the individual's cognitive appraisal of the recommended behaviour (Derbaix & Grégory, 2004).

Based on this theoretical review, we formulate the following second hypothesis:

H2: Exposure to a humorous ecological advertisement increases the probability of behavioural intention towards environmental concern in children.

This hypothesis directs our attention to children's behavioural intentions following exposure to humorous ecological advertising, which is expected to foster environmental concern. Accordingly, our study seeks to examine more closely the extent to which humorous advertising influences children's intentions and their ability to adopt ecological behaviours that support environmental preservation. From this second hypothesis, two sub-hypotheses are derived:

H2.1: There is a positive effect between the creation of following exposure to a humorous ecological advertisement and the child's ecological behavioural intention.

H2.2: There is a positive effect between the child's beliefs following exposure to a humorous ecological advertisement and their ecological behavioural intention.

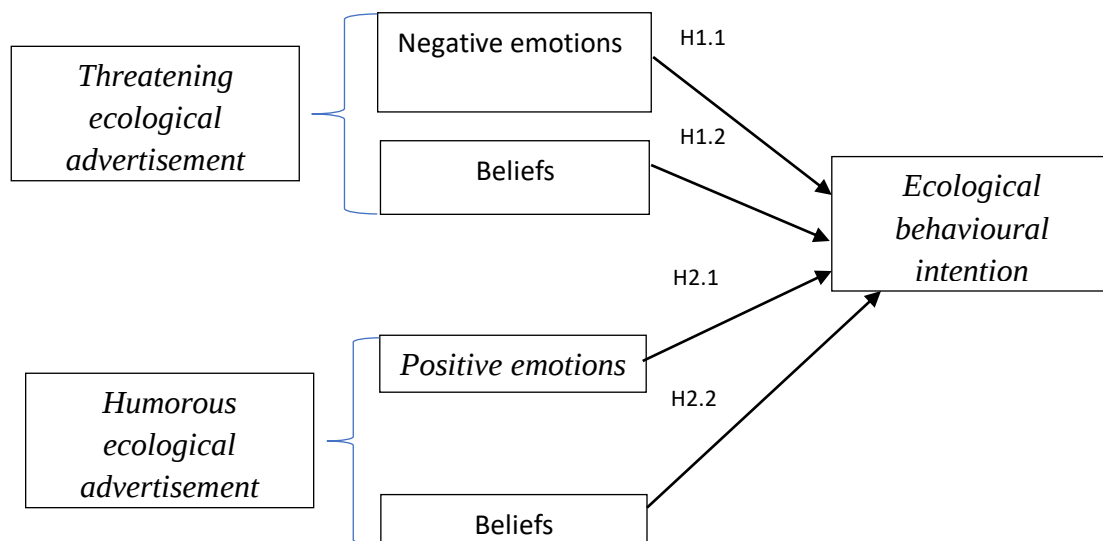


Figure 1: Conceptual framework and hypotheses.

2. Methodology

2.1 Analytical Approach

To address the research question and empirically test the proposed hypotheses, logistic regression was employed using the Binary Logit Model. This method was chosen because the dependent variable, children's intention to adopt environmentally responsible behaviour, was dichotomous (intention present vs. absent). The Binary Logit Model is widely recognised in behavioural research as an appropriate tool for estimating probabilities and assessing the relative impact of multiple explanatory variables on a binary outcome.

2.2 Target Population

The study focused on children aged between 8 and 12 years, a developmental stage considered particularly relevant because children at this age are highly receptive to advertising messages while relying predominantly on affective rather than cognitive processing. This period is critical for examining how persuasive communication strategies shape ecological awareness and behavioural intentions.

2.3 Sample and Experimental Design

A total of 270 schoolchildren participated in the experiment. The participants were balanced in terms of gender and represented a diversity of socio-economic backgrounds. Each child was exposed to two ecological television advertisements: one employing a threatening appeal and the other a humorous appeal. The experiment was conducted in a classroom environment after obtaining prior authorisation from the school administration. Participants were randomly assigned to nine groups of 30 students each to ensure both control and replicability. Three trained facilitators supervised the sessions, guaranteeing consistent delivery of the advertisements and proper administration of the questionnaires.

Table 1

Sample description (n =270)

Sample characteristics		Effective	Percentage	School level
Gender	Boys	140	51,8 %	
	Girls	130	48,2 %	
Age	6 à 7	80	29,6 %	1st grade
	8 à 9	76	28,1 %	2 nd grade
	10 à 11	52	19,2 %	3rd grade
	12	62	22,9%	4 th grade

2.4 Ethical Considerations

Given the involvement of children as research participants, strict ethical safeguards were applied. Prior to the experiment, approval was obtained from the school administration, and informed consent was collected from parents. Participation was entirely voluntary, and children were free to withdraw at any point without penalty. The ecological advertisements used in the experiment were carefully pre-tested and designed to be age-appropriate, non-traumatic, and free from manipulative or distressing content. Facilitators ensured that children were not exposed to any psychological harm, and anonymity was guaranteed throughout data collection and analysis.

2.5 Measurement Instruments

Immediately after viewing each advertisement, the children completed a questionnaire adapted from validated measurement scales, including:

- Intention to adopt the recommended ecological behaviour (Prochaska et al., 1991),
- Negative affective reactions elicited by the advertisement (Izard, 1977),
- Beliefs regarding social behaviour (Lavoisier-Mérieux, 2002), and
- Positive and negative affective reactions (Derbaix & Pham, 1989).

3. Hypothesis Testing

According to the results presented in Table 2, the β coefficient associated with *Negative Emotional Reactions* (NER) induced by exposure to the threatening advertisement is positive. This coefficient reflects the contribution of the variable to the model. A higher β indicates a stronger role of NER in predicting behavioural intentions. The Wald test is significant ($p = 0.005 < 0.05$). Moreover, the $\text{Exp}(B)$ value of 6.212 shows that a one-unit increase in negative emotional reactions increases the likelihood of children intending to adopt environmentally responsible behaviour by a factor of 6.212 units., approximately six times more.

We therefore conclude that negative emotional reactions triggered by the threatening ecological advertisement positively influence children's behavioural intentions toward environmental concern. Consequently, hypothesis **H1.1**, which posits a positive effect of negative emotions on behavioural intention following exposure to a threatening ecological advertisement, is confirmed.

For the second explanatory variable, namely *Children's Beliefs (CB)* regarding the behaviour recommended by the advertisement (linked to hypothesis H1.2), the results provide insight into the predictive power of this variable. The analysis shows a β coefficient of 0.785; however, the Wald test is not significant ($p = 0.444 > 0.05$). Although the coefficient is positive, the lack of statistical significance indicates that children's beliefs about environmentally responsible behaviour do not significantly influence their intention to adopt the recommended behaviour. Accordingly, hypothesis **H1.2** is rejected.

Based on these results, we can state that hypothesis **H1 is only partially supported**: while emotional reactions (H1.1) exert a significant influence on behavioural intentions, beliefs (H1.2) do not.

Table 2*Hypothesis testing*

	Prediction rate	Overall meaning	R ² Nagelkerke	Individual meaning		
				β	Sig.	Exp(β)
Threatening advertising	72.3	.007	.157	NER	.005	2.192
				.785	.445	6.221
				CB	.144	.201
				1.828		
Humorous advertising	83.1	.002	.221	Cst-		
				1.606		
				PER	.003	1.786
				.479	.002	1.253
				CB	.157	.802
				1.025		
				Cst		
				.213		

NER: Negative Emotional Reactions

PER: Positive Emotional Reaction

CB: Child's Beliefs

At the end of this analysis, and based on a utility function composed of both a random component and a deterministic component—expressed as a random combination of explanatory variables—we can formulate the equation representing our variables as follows:

$$\text{Log } Y = \text{cst} + \beta_1 X_1 + \beta_2 X_2$$

X1 and X2 = Explanatory variables,

Y: Explained variable

$$\text{Log } Y = -1,606 + 0,785\text{NER} + 1,828\text{CB}$$

X1: NER: Negative Emotional Reactions.

X2: CB: Child's Beliefs

Cst: constant.

$$Y = \text{Exp } \beta_0 + \text{Exp } \beta_1 X_1 + \text{Exp } \beta_2 X_2$$

$$Y = 0,201 + 2,192\text{NER} + 6,221\text{CB}$$

The probability equation for a child's intention to adopt environmentally responsible behaviour (BIE) following exposure to a threatening ecological television advertisement can be expressed as follows:

$$P(X) = \frac{e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2}}{1 + e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2}}$$

$$P \text{ BIEf} = \frac{e^{(0,201) + 2,192 \text{NER} + 6,221 \text{CB}}}{1 + e^{(0,201) + 2,192 \text{NER} + 6,221 \text{CB}}}$$

$$P \text{ BIEf} = 0.777 \approx 0.8$$

(P BIEf: probability of having Behavioural Intention for the Environment in the case of fear)

Thus, the probability that a child will develop behavioural intentions to care for the environment after being exposed to a threatening ecological advertisement that evokes negative affective reactions is estimated at approximately 80%.

With regard to **Hypothesis H2**, which examines the effect of humorous ecological advertising on children's behavioural intentions, the results show that for the first explanatory variable, *Positive Emotional Reactions (PER)*, the coefficient β is positive and the Wald test is significant at the 5% level ($\beta = 0.479$; $p = 0.003$). This indicates that positive emotional reactions elicited during the viewing of a humorous ecological advertisement positively influence children's intentions to adopt environmentally responsible behaviours. Therefore, **Hypothesis H2.1** is confirmed.

For the second explanatory variable, *Children's Beliefs (CB)*, the coefficient is also positive ($\beta = 1.025$), and the Wald test is significant ($p = 0.002$). This suggests that children's beliefs about environmentally responsible behaviour, shaped by exposure to humorous ecological advertising, positively influence their intention to adopt such behaviours. Consequently, **Hypothesis H2.2** is confirmed.

The estimated model can be expressed as follows:

$$\text{Log } Y = \text{Cst} + \beta_1 X_1 + \beta_2 X_2$$

X_1 and X_2 : Explanatory variables

$$\text{Log } Y = 0,213 + 1,025 \text{ PER} + 0,479 \text{ CB}$$

$X_1 = \text{PER}$: Positive Emotional Reaction

$$Y = \text{Exp}(\beta_0) \text{cste} + \text{Exp}(\beta_1) \text{PER} + \text{Exp}(\beta_2) \text{CB}$$

$X_2 = \text{CB}$: Child's Beliefs

$$Y = 0,802 + 1,786 \text{ PER} + 1,253 \text{ CB}$$

From this approach, we derive the probability equation for a child's intention to adopt environmentally responsible behaviour following exposure to a humorous ecological television advertisement.

$$P \text{ BIEh} = \frac{e^{(0,802)+1,786 \text{ PER}+1,253 \text{ CB}}}{1+e^{(0,802)+1,786 \text{ PER}+1,253 \text{ CB}}}$$

$$P \text{ BIEh} = 0.85751013 \approx 0.9$$

(P BIEh: probability of Behavioural Intention for the Environment in the case of humour)

4. Results and Discussion

We can thus conclude that the probability of a child developing behavioural intentions to care for the environment after exposure to a humorous ecological television advertisement is relatively high, at approximately 90%. This behavioural intention is influenced jointly by the positive affective reactions elicited by the advertisement and by the child's beliefs regarding environmentally responsible behaviour.

The findings further suggest that, for children aged 8 to 12, behavioural intentions toward environmental concern are shaped differently depending on the type of advertisement. In the case of threatening advertisements, the probability of developing environmentally responsible behavioural intentions depends solely on the negative affective reactions triggered by the advertisement. Beliefs about the recommended behaviour are not significantly influenced by the threatening message and therefore do not contribute to adherence.

The rejection of the second sub-hypothesis (H1.2) may be explained by the fear-control process, which often leads to maladaptive responses characterised by defensive or resistant reactions. Resistance to prevention messages manifests as a failure of persuasive communication, either through the absence of attitudinal or behavioural change ("simple resistance") or through the adoption of behaviours contrary to those intended—a phenomenon known as the *boomerang effect* (Byrne & Hart, 2010; Elliot & Speck, 1998). In this case, under the influence of fear, children fail to form beliefs about the recommended behaviour. Instead, their reaction is primarily aimed at reducing the emotional discomfort caused by the fear appeal. As Brennan and Binney (2010) argue, negative emotions generate imbalance and discomfort, prompting individuals to seek escape rather than compliance.

In contrast, the results for humorous advertisements reveal that children's behavioural intentions toward environmental concern depend on both positive affective reactions and beliefs about the recommended behaviour. These findings are consistent with the theoretical framework. From a cognitive perspective on humour processing, belief theory suggests that humour can only be fully processed by individuals with sufficient cognitive capacity (LaFollette & Shanks, 1993). Once processed, humour enables message recipients to reassess their viewpoints, alternate between different beliefs, and adopt new behaviours.

Empirical research supports this interpretation. Madden and Weinberger (1984) demonstrated that humorous advertisements attract more attention than non-humorous ones. More recent studies show that humour appreciation generates positive affective reactions while simultaneously reducing negative emotions (Warren, Barsky, & McGraw, 2018). Moreover, humour is particularly appealing to children, as its ability to create a joyful and uplifting atmosphere strengthens both positive emotions and beliefs about the recommended behaviour. Guichard and colleagues confirmed that visual humour is accessible to children from an early age (Ezan, Gollety, & Guichard, 2014).

Cross-cultural research by Griesse et al. (2018) further demonstrated that humorous advertisements are more effective than non-humorous ones in promoting ecological behavioural intentions in China, Germany, and the United States. Similarly, children with a favourable attitude toward an advertisement are more likely to be influenced by its message content (Moore & Lutz, 2000).

Our probabilistic analysis using the Logit model aligns with these studies, indicating that humorous ecological television advertisements exert a stronger influence on children's behavioural intentions toward environmental concern than threatening advertisements.

5. Conclusion

Most research on consumer sensitivity to ecological issues has focused on adults. In contrast, this study examined the environmentally conscious behaviours that children aged 8 to 12 might adopt. Building on a theoretical framework which suggests that children, unlike adults, primarily respond at an affective level, we found that both negative and positive emotions significantly influence their reactions to ecological advertising.

Specifically, we analysed the probability of children adopting environmentally conscious behaviours after exposure to hyperbolic, ecologically themed television advertisements—either threatening or humorous—using two explanatory variables: affective reactions and beliefs regarding the recommended behaviour. The findings

show that humorous ecological advertising is more effective than threatening appeals in encouraging environmentally responsible behavioural intentions among children. Furthermore, in the case of humour, both affective reactions and beliefs about environmentally responsible behaviour contribute significantly to children's likelihood of adopting the recommended behaviour.

These findings are consistent with theoretical perspectives suggesting that fear appeals can activate defensive mechanisms, leading to maladaptive responses. In such cases, persuasion fails, and children respond protectively against the fear itself rather than engaging with the environmental issue highlighted in the advertisement.

5.1 Managerial Implications

From a managerial perspective, it is essential to engage school-age children early in activities related to environmental preservation, particularly through school-based education (Norton et al., 2024). Over the past two decades, UNESCO has consistently advocated the integration of environmental protection into school curricula. Educational programs can help embed economic, social, and environmental values in future decision-makers, equipping them to make responsible choices in their daily lives (Burakgazi, 2024).

For communication specialists, incorporating environmental perspectives into scientific communication offers a promising avenue. Scientific communication, defined as "the skilful use of various tools, media, activities, and dialogues to elicit one or more personal responses to science: awareness, enjoyment, interest, opinions, and understanding" (Duckworth et al., 2022), can effectively engage children when combined with humour. Scientists and communication experts should therefore collaborate in designing environmental messages that present both rational/scientific arguments and emotional appeals, highlighting the threats posed by climate change while fostering positive emotional engagement.

5.2 Research Limitations and Future Directions

This research is not without limitations. First, several additional factors—such as parental influence, peer groups, schools, and the broader social environment—could have been considered, as they play a major role in shaping children's ecological awareness. Second, the study focused on intentions rather than actual behaviours. Future research should therefore seek to identify and analyse the variables that transform children's intentions into tangible ecological actions.

The role of communication in promoting pro-environmental behaviour has expanded significantly with the rise of social media (Rhée, 2021). Future studies should examine how social media platforms can be leveraged to reach and influence children more effectively (Bonnici, 2023).

Finally, given children's vulnerability and their limited ability to respond accurately to questionnaires, qualitative methods such as projective techniques, focus groups, or observational studies could complement quantitative approaches and provide richer insights.

Acknowledgment: The authors extend their appreciation to the Deanship of Research and Graduate Studies at King Khalid University for funding this work through General Research. Project under grant number GRP/56/46

References

- Adam, J. M., & Bonhomme, M. (2012). *L'argumentation publicitaire: rhétorique de l'éloge et de la persuasion*. Armand Colin.
- Atkin, C. K. (1975). *The Effects of Television Advertising on Children: First Year Experimental Evidence*. Michigan State University, Department of Communication, College of Communication Arts.
- Belch, M. A. (1979). Identifying the socially and ecologically concerned segment through life-style research: Initial findings. *The consumer society*, 69, 76.
- Benoit-Moreau, F., Larceneux, F., & Parguel, B. (2010). La communication sociétale: entre opportunités et risques d'opportunisme. *Décisions marketing*, 75-78.
- Bonnici, M. B, and Spiteri, G.W. (2023). Humour Helps: An Experimental Analysis of Pro-Environmental Social Media Communication. *Sustainability*.
- Brée, J. (2013). De l'enfant au consommateur: un processus de socialisation aux facettes multi théoriques.
- Brenan, L. M. and Binney, W. (2010). Fear, Guilt, and Shame Appeals in Social Marketing. *Journal of Business Research*, 62,2, 140-146.
- Brochand, B. and Lendrevie, J. (2001). *Le Nouveau Publicitor: Publicité, Médias, Hors médias, Internet*, 5e édition . Éditions Dalloz-Sirey
- Burakgazi S J and Reiss M J, (2024). Perceptions of Sustainability among Children and Teachers: Problems Revealed via the Lenses of Science Communication and Transformative Learning – Sustainability.
- Byrne S et Hart P. (2009). The Boomerang Effect A Synthesis of Findings and a Preliminary Theoretical Framework. *Annals of the International Communication Association*
- Charry, K., & Pecheux, C. (2008). Enfance, alimentation et publicité: quels rôles pour le marketing? *Reflets et perspectives de la vie économique*, 47(2), 9-17.
- Dagnaud, M., & France. Documentation française. (2003). *Médias et violence: l'état du débat*. Documentation française.
- Delécraz, J. (2018). La théorie de Piaget: les stades du développement cognitif de l'enfant, est-ce que votre enfant se développe selon son âge?. *Health and Brain Neuroscience*. <https://yourbrain.health/fr/theorie-de-piaget/>

- Derbaix, C., & Pham, M. T. (1989). Pour un développement des mesures de l'affectif en marketing: synthèse des prérequis. *Recherche et Applications en Marketing (French Edition)*, 4(4), 71-87.
- Derbaix, C., & Gregory P. (2004). *Persuasion : la théorie de l'irrationalité restreinte*. DIAL.pr ,Research publications.
- Duckworth, J.J ; Randle, M. ; McGale, LS ; Jones, A. ; Doherty, B. ; Halford, JCG ; Christiansen, P. (2022). Les « étiquettes vertes » sur le devant des emballages augmentent-elles le choix d'aliments durables et la volonté de payer des consommateurs britanniques ? 371 , 133466.
- Durand, J. (2017). Rhétorique et image publicitaire. *Communications*, 15(1), 70-95.
- Ezan, P., Gollety, M., Guichard, N., & Hémar-Nicolas, V. (2014). Renforcer l'efficacité des actions de lutte contre l'obésité. Vers l'identification de leviers de persuasion spécifiques aux enfants. *Décisions Marketing*, 13-26.
- Gallopel, K., & Valette-Florence, P. (2002, May). Fear appeals in anti-tobacco campaigns: cultural considerations, the role of fear, proposal for an action plan. In *Actes de l'«Advances in Consumer Research Asia-Pacific Conference»* (p. 21p).
- Gallopel-Morvan, K. (2006). The use of fear appeal in social marketing survey, limits and directions for future research. *Recherche et Applications en Marketing*, 21(4), 41-60.
- Giannelloni, J. L. (1998). Les comportements liés à la protection de l'environnement et leurs déterminants: un état des recherches en marketing. *Recherche et Applications en Marketing (French Edition)*, 13(2), 49-72
- Griese, K. M., Alexandrov, A., Michaelis, C., & Lilly, B. (2018). Examining the effect of humour in environmentally-friendly advertising. *Marketing Management Journal*, 28(1).
- Gorn, G. J., & Florsheim, R. (1985). The effects of commercials for adult products on children. *Journal of consumer research*, 11(4), 962-967.
- Guichard, N., & Pecheux, C. (2007). Les enfants et la publicité, Kids marketing : *Colombelles, EMS*.
- Guitouni M. (2001). Au Cœur de l'identité. L'Intelligence Emotionnelle. Ed.Carte blanche.
- Grassi, S. (2015). *Les effets de la publicité télévisée sur les préférences alimentaires des enfants: le rôle des croyances en termes d'alimentation saine* (Doctoral dissertation, Caen).
- Hategan V P (2015). Promoting the Eco-Dialogue through Eco-Philosophy for Community. Sustainability.
- Izard, C.E., Fantauzzo, C.A., Castle, J.M., Haynes, O.M., Rayias, M.F., Putnam, P.H., (1995). The ontogeny and significance of infants' facial expressions in the first 9 months of life. *Developmental Psychology* 31, 997-1013.
- Jamee, A., Pelcher, J.A, Trendafilova, S, and Brian, P. (2024). Where Do We Stand Ten Years.
- Juan, S. (2023). L'homme et la société. *Dénaturaliser l'écologie*, 023, 1, 218.

- Kinncar, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically concerned consumers: who are they?. *The Journal of Marketing*, 20-24.
- La Folette H and Shaks N. (1993). Belief and the basis of humour. *American philosophical quarterly*. Volume 30. Number 4.
- Lavoisier-Mérieux, L. M. (2002). De l'efficacité des stratégies de communication publicitaires menaçantes: une étude de la relation entre émotions négatives et persuasion dans le domaine de la lutte contre l'insécurité routière. *Actes du*, 2
- Lendrevie J and Brochand B . (2002). Publicitor. Dalloz.
- McQuarrie, E. F., & Mick, D. G. (1996). Figures of rhetoric in advertising language. *Journal of consumer research*, 22(4), 424-438.
- Moore E S., & Lutz, R. J. (2000). Children, advertising, and product experiences: A multimethod inquiry. *Journal of consumer research*, 27(1), 31-48.
- Müller, J., & Ekwa, M. E. (2020). Sensibilité Écologique et Préoccupation Pour l'environnement: Définitions Conceptuelles, Mesures et Résultats Des Recherches. In 19th International Marketing Trends Congress.
- Norton V and Lignou S. (2024). Investigating UK School-Aged Children's Sustainable Food Packaging Disposal Knowledge and Engagement Levels. In *Ecologically. Sustainability - MDPI*.
- Piaget, J. (1962). The stages of the intellectual development of the child. *Bulletin of the Menninger Clinic*, 26, 3, 120-128.
- Pecheux, C., Charry, K., & Derbaix, C. (2006). Enfants, Alimentation et obésité: quels rôles pour la publicité?. In *Actes du XXII^e Congrès de l'Association Française du Marketing-11 & 12 mai 2006*.
- Preston, C. (2005). Advertising to children and social responsibility. *Young Consumers*, 6(4), 61-67.
- Prochaska, J. O., DiClemente, C. C., Fairhurst, S. K., Velicer, W. F., Velasquez, M. M., & Rossi, J. S. (1991). The process of smoking cessation: An analysis of precontemplation, contemplation, and preparation stages of change. *Journal of Consulting and Clinical Psychology*, 59(2), 295-304. <https://doi.org/10.1037/0022-006X.59.2.295>
- Rhee, L.; Bayer, JB; Lee, DS and Kuru, O. (2021). Social by Definition: How Users Define Social Platforms and Why It Matters. *Telemat. Inform.* 2021, 59, 101538.
- Riesman, D., and Roseborough, H. (1955). Careers and consumer behaviour. *Consumer behaviour*, 2, 1-18.
- Robertson, T. S., Rossiter, J. R., & Gleason, T. C. (1979). Children's receptivity to proprietary medicine advertising. *Journal of Consumer Research*, 6(3), 247-255.
- Soper K. (1995). *What Is Nature? Culture, Politics and the Non-Human*. Blackwell; Oxford, UK: 1995. ; Cambridge, Mass., USA : Blackwell.
- Speck P and Elliot M T (1997). The antecedents and consequence of perceived advertising clutter. *Business psyhology. Journal of current issues and research in advertisin*.

- Swim, J. K., Gillis, A. J., and Hamaty, K. J. (2020). Gender Bending and Gender Conformity: The Social Consequences of Engaging in Feminine and Masculine pro-Environmental Behaviors. *Sex Roles*, 82(5), 363-385.
- Tourette-Turgis, (2021). Le développement de l'enfant . Psychologie pour l'enseignant-Dunod.
- Truong, V. D., Dong, X. D., Saunders, S. G., Pham, Q., Nguyen, H., & Tran, N. A. (2021). Measuring, Evaluating, and Documenting Social Marketing Impact. *Journal of Social Marketing*, 11(3), 259-277.
- Van De Walle, I., & Brice, L. (2011). Les attentes des consommateurs en matière de responsabilité sociale des entreprises. *Cahier de recherche*, (289).
- Warren, C., Barsky, A., & McGraw, A. P. (2018). Humour, comedy, and consumer behaviour. *Journal of Consumer Research*, 45(3), 529-552.