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BYTE BY BYTE: INFLUENCE OF CONTENT GENERATOR

Investigating the impact of AI-generated content on health outcomes

Armindo Pereira Gonçalves

Master Thesis
presented as partial requirement for obtaining a Master's Degree in Data-Driven Marketing

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[Lisbon, July 15, 2024]

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ABSTRACT

The rise of AI-generated content on social media has introduced new dynamics in digital engagement. Despite the increasing prevalence of AI in creating engaging content, its impact on consumer behavior, particularly concerning health outcomes, remains underexplored. This study investigates the impact of content creators on user engagement in healthy habits. Through an online experiment, this research explores the type of content creator (AI vs. human-generated) to measure the impact on user intention, risk perception, loyalty, and behavioral intention. The findings reveal that human-generated content significantly outperforms AI-generated content in promoting healthy habits, fostering user loyalty, and enhancing behavioral intention, while AI-generated content is associated with higher risk perception. The results suggest that while AI can be a powerful tool for content creation, human elements remain crucial for building trust and effectively engaging users in health-related behaviors. This research contributes to the literature by providing empirical evidence on the differential impacts of AI and human content creators in social media marketing, highlighting the importance of the human touch in digital health promotion strategies.

KEYWORDS

AI-generated content; healthy habits; consumer behavior; trust; social influence.

Sustainable Development Goals (SDG):

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LIST OF ABBREVIATIONS AND ACRONYMS

AI	Artificial Intelligence
AL	Attitudinal Loyalty
BI	Behavioral Intention
BL	Behavioral Loyalty
EM	Escape Motivation
PPR	Perceived Privacy Risk
RP	Risk Perception
T	Trust
TD	Temporal Dissociation

INTRODUCTION

In recent years, AI has gained recognition across various fields, though its exploration dates back to the 50s with Alan Turing[1], considered by many as the father of computer science and a pioneer of artificial intelligence (Alemany et al., 2023). Turing's machine, which utilized pattern recognition, was crucial in ending World War II. Despite his groundbreaking work, the high cost of leasing a computer—$200,000 per month—halted further development (Anyoha, 2017). Today, AI garners significant media attention largely due to the advent of ChatGPT. By offering free access to an AI platform, OpenAI revolutionized the sector, sparking intense market interest and investment (Hammond, 2023). The demand for AI tools to facilitate daily activities has surged, with companies increasingly integrating AI into innovative products. Google Trends indicates a spike in AI-related searches following the launch of ChatGPT, underscoring its transformative impact. As AI adoption grows, society is divided into two groups: those who embrace it for personal or professional benefit and those who resist due to concerns such as potential unemployment. However, Eapen et al. (2023) argue that AI's greatest potential lies in augmenting human efforts to create unprecedented solutions, rather than replacing humans. Businesses recognize this potential and seek to leverage AI and Big Data to reduce costs and increase profits (Brown, 2021). Governments will play a crucial role in regulation, as the ethical use of AI depends on its users. Technology is value-neutral, and its moral implications arise from how people or companies choose to employ it (Du & Xie, 2021).

The pervasive influence of social media on consumer behavior, particularly regarding healthy habits highlights a significant and evolving landscape where the nature of content creation—whether by humans or generative AI—can have profound impacts. Existing literature provides critical insights into virtual influencers (Arsenyan & Mirowska, 2021), marketing data usage (Du & Xie, 2021), and the ethical challenges of AI in consumer markets (Kozinets & Gretzel, 2021). However, there is a notable research gap in directly comparing the effectiveness and impact of human versus AI-generated social media content on health-related outcomes. Most studies have focused on the technological or ethical dimensions of AI in marketing (Du & Xie, 2021) and consumer engagement (Puntoni et al., 2021), or explored human social media influence (Weihrauch & Huang, 2021) without explicitly contrasting it with AI-generated content. This thesis aims to bridge this gap by investigating how the type of social media content generator (AI vs. Human) shapes consumer engagement, influences dietary choices, and promotes healthy habits, measuring physical activity levels as an engagement indicator. The goal is to understand AI's potential as a tool for positive health promotion and its implications for marketing strategies, content creation, and public health messaging. This investigation is timely given the rapid advancements in AI capabilities and the growing

[1] Alan Turing was an English mathematician who invented the machine called “Bombe”, an electromechanical device that enabled to decipher of Germany's Enigma machine, a feat previously deemed impossible, that Germans used to share war plans and military positions.

integration of AI in social media platforms. While studies explore AI's human-like characteristics (Arsenyan & Mirowska, 2021), the effects of social media on mental health, human body imagery (Weihrauch & Huang, 2021), and product aesthetics (Burnap et al., 2023), as well as AI's ability to listen, predict, produce, and interact with consumers (Puntoni et al., 2021), limited research exists on how AI-generated content influences dietary choices and habits. By examining these influences and considering the COVID era's role in promoting health awareness, this research aims to discern the difference in influence between AI-generated and human-generated posts on promoting healthy habits. We did this by conducting a one single factor experiment via an online survey, which targeted more than 300 participants.

By employing the prior mentioned methodology, this research makes its contributions to understanding the impact of AI-generated versus human-generated content on promoting healthy habits through social media by first revealing that participants exposed to AI-generated content reported a significantly lower intention to adopt healthy habits compared to those exposed to human-generated content. Secondly, AI-generated content was associated with a higher perception of risk than human-generated content, and participants demonstrated lower loyalty towards AI-generated content compared to human-generated content. Thirdly was also a lower behavioral intention to continue using social media for health-related information among those exposed to AI-generated content versus human-generated content. Finally, these results are consistent with literature suggesting the importance of human elements in enhancing consumer engagement and reducing perceived risks.

This article is structured as follows: literature review where we explore the importance of the topic and how AI has emerged in various fields and where we will explore what was been researched previously about the topic and how this article will contribute to closing the gap of knowledge of social media engagement effect of AI-generated content on healthy habits and dietary choices, with more relevance on the trust level of users when they contrast information collected/produced by scientists and humans with a higher level of expertise in the field versus AI. This literature review will hinge on the research tool used to test this with an experiment - based on articles and researchers' considerations, the present paper will try to test the trustworthiness of AI on health outcomes by employing various scales and measures of trust, risk, and intention. Finally, we will face our predictions and see if they are supported and how can it have more support in further research.

LITERATURE REVIEW

The integration of Artificial Intelligence (AI) and human content creation in social media has become a critical area of study in contemporary marketing and consumer behavior research. This literature review explores various dimensions of this integration, focusing on its implications for promoting healthy habits and snack consumption. On the other hand, the surge in investment in AI has led to significant advancements in content generation, particularly in how it influences consumer behavior and health outcomes. This literature review examines various studies highlighting the impact of AI-generated content on consumer perceptions, trust, and the adoption of health-related behaviors. For instance, research by Burnap et al. (2023) illustrates the critical role of aesthetics in product appeal, suggesting that visually appealing AI-generated content can enhance consumer acceptance and intention to adopt healthy habits. Similarly, studies emphasize the ethical implications of AI use, particularly concerns around data privacy and algorithmic bias, which can affect consumer trust in AI-generated recommendations (Cukier, 2021). Moreover, the relationship between content creators—whether human or AI—and consumer behavior is complex. Findings from Arsenyan and Mirowska (2021) suggest that human-like virtual influencers may elicit mixed responses, potentially undermining trust and affecting consumer loyalty. This highlights the necessity to explore how AI-generated content compares to human-generated content in influencing health outcomes, as trust emerges as a crucial mediator in these interactions (Puntoni et al., 2021). Overall, understanding the dynamics between AI-generated content, consumer trust, and health behaviors is essential for evaluating the broader implications of AI in marketing and public health.

2.1. Investment Surge in AI, Aesthetics and Market Appeal

Burnap et al. (2023) emphasize the crucial role of aesthetics in product acceptance, with a significant impact on sales. For instance, in the automotive industry, an enhanced design can boost sales by 30% or more. Companies invest heavily in designing and testing aesthetics, with substantial returns across various markets. The authors developed a model that combines elements from generative adversarial networks (GAN) and supervised learning, trained with data from an automotive partner. This model can predict the appeal of new aesthetic designs and generate controllable new designs. The generated designs are both appealing to consumers and resemble market trends, suggesting the model's effectiveness in generating viable product designs. Although focused on the automotive industry, the methodology is applicable across various product categories (Burnap et al., 2023). The concept of democratizing innovation and the role of generative AI in augmenting human creativity have been explored by Eapen et al. (2023). They discuss the challenges organizations face in democratizing innovation, including evaluation overload and the curse of expertise.

Generative AI can assist in overcoming these challenges by generating and refining ideas, and supporting divergent thinking (Eapen et al., 2023). The overvaluation of AI start-ups has been a topic of concern. Hammond (2023) reports on the views of Vinod Khosla, an early backer of OpenAI, who warns that AI start-ups are being overvalued and most will fail to make significant profits. Khosla compares the current investment hype in AI to the previous investment frenzy in cryptocurrency start-ups, observing that many investors are joining due to a "follow the herd" mentality, which could lead to inflated valuations and eventual losses (Hammond, 2023). Khosla notes a significant increase in venture capital investment in AI companies, rising from $5.1 billion in 2022 to $21.5 billion in the current year. He is skeptical of later-stage funding rounds where expectations exceed the actual value of the businesses and emphasizes a more selective and fundamentals-based investment approach as opposed to momentum investing (Hammond, 2023).

2.2. CONSUMER EXPERIENCE

On another topic, we need to consider how AI could potentially impact the consumer experience. As we dispose of our data to get better product-segmented recommendations, we are unprotecting our own data privacy and algorithmic bias (Cukier, 2021). Thus, it's important to talk about the ethical part of this usage by companies to enhance their products and our experiences with them. We'll talk more about these implications further, considering as Cukier, (2021) stands, AI can increase our experience, having its advantages in improving product and service quality while addressing disadvantages such as data privacy and algorithmic bias. For more understanding, it's useful to consider the capabilities of the technology and which are used in the different interactions that we can have with it. Puntoni et al. (2021) propose the idea that AI has four main capabilities such as listening, predicting, producing, and communicating. These four types can then generate four interactions: data capture, classification, delegation, and social interaction.

Table 1 - 4x4 Matrix of capabilities and interactions with AI

Capabilities	**Interactions**
Listening	Data Capture
Predicting	Classification
Producing	Delegation
Communicating	Interaction

Source: From Consumers and Artificial Intelligence: An Experiential Perspective by Puntoni et al. (2021) Journal of Marketing.

2.3. HUMAN AND VIRTUAL INTERACTIONS

The influence of virtual influencers in social media has been extensively studied. Arsenyan and Mirowska (2021) explored the integration of virtual agents and human networks, particularly focusing on the social media presence of virtual influencers. Their research analyzed posting behaviors and public reactions to both human and virtual influencers, revealing that human-like virtual influencers tend to receive lower positive reactions, aligning with the Uncanny Valley hypothesis. This phenomenon suggests a complex relationship between authenticity and digital representation in social media (Arsenyan & Mirowska, 2021).

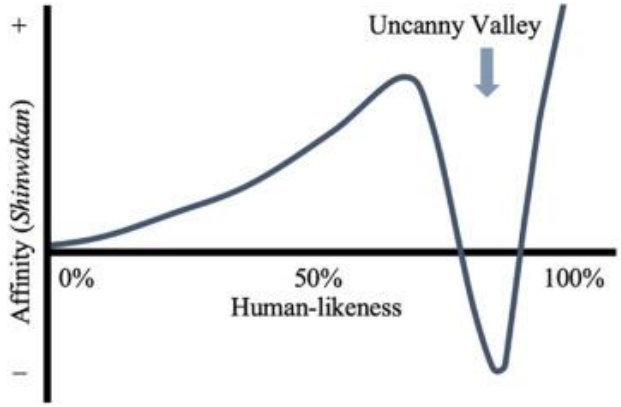

Figure 1 - The Uncanny Valley Hypothesis

Source: From The Authentic Virtual Influencer by Koles et al., 2024, Journal of Business Research.

Equally important, the same study by Arsenyan & Mirowska (2021) highlighted the potential of virtual influencers in fulfilling user needs for identity, diversion, and social interaction. The study also noted the immersive experience offered by these influencers, potentially blurring the lines between real and imaginary worlds. Such findings are crucial in understanding the dynamics of social media engagement and the role of virtual agents in influencing consumer behavior. Weihrauch and Huang (2021) explore the effects of portraying humans as machines to promote health. They find that such representation

s encourages healthier choices among consumers with high eating self-efficacy. However, for consumers with low eating self-efficacy, this approach backfires, leading to poorer food choices. The expectation set by human-as-machine imagery is that humans should adopt a cognitive, machine-like approach to food, which is challenging for those with low self-efficacy in eating behaviors. Five studies with various stimuli revealed that portraying humans as machines activate expectations for a cognitive approach to eating, but this portrayal only leads to healthier choices among those who believe they can meet such cognitive expectations (Weihrauch & Huang, 2021). Liu et al. (2020) developed a model to identify brand attributes in images posted on social media, such as glamour, ruggedness, health, and fun. They demonstrated a strong link between social media portrayal and consumer brand perceptions using deep-learning methods, specifically a multi-label convolutional neural network. The model's performance was validated using human judges and survey data, providing insights into how consumer-created visual content shapes brand image (Liu et al., 2020).

2.4. Sociological and Phycological Impacts of AI

Berman and Israeli (2020) examined the portrayal of health in food advertising, investigating how health is communicated through visual and verbal cues. They analyzed the influence of these advertisements on consumer perceptions and behaviors and explored the role of regulatory bodies in managing these advertisements. The implications for public health policies were also discussed (Berman & Israeli, 2020). The sociological and psychological impacts of AI on consumers have been explored by Puntoni et al. (2021). They discuss contexts like the surveillance society narrative and their influence on consumer perceptions of AI. Additionally, psychological aspects, including feelings of exploitation and reduced control, are explored, suggesting that consumer experiences with AI can lead to negative emotions and behaviors (Puntoni et al., 2021).

2.5. Practical Applications and Challenges of Marketing Data

Eapen et al. (2023) address the difficulty in merging incomplete or minor ideas and the challenge of overcoming expertise bias. They illustrate how generative AI can prompt novel ideas and assist in evaluating and refining them, promoting divergent thinking and challenging expertise bias in idea generation (Eapen et al., 2023). The practical applications of generative AI in different stages of the innovation process, from idea generation to product development, are provided by Eapen et al. (2023). They discuss the role of generative AI in assisting idea evaluation and refining concepts, as well as facilitating collaboration and co-creation among users (Eapen et al., 2023). Gordon et al. (2021) examine four market inefficiencies in digital advertising: ad effect measurement, advertising channel friction, ad blocking, and ad fraud. They discuss the rapid growth and complexities of digital advertising markets and the

transition from traditional to digital platforms, highlighting the need for more efficient distribution of digital advertising opportunities (Gordon et al., 2021).

Cui et al. (2021) identify three primary challenges in omnichannel marketing: data access and integration, marketing attribution, and consumer privacy protection. They emphasize the complexity of managing customer interactions across multiple digital and physical channels and argue that machine learning and blockchain offer promising solutions to these challenges (Cui et al., 2021). The difficulties in accessing and aggregating data across various customer touchpoints and channels are discussed by Cui et al. (2021). They highlight the use of federated learning and blockchain to address data-related challenges and suggest that advances in AI and predictive algorithms can help predict customer behavior and integrate disparate data (Cui et al., 2021). They explored the complexity of attributing the effectiveness of marketing interventions across multiple customer touchpoints. They highlight the need for models that can assess long-term impacts and interactions among various marketing channels and point out the challenges in apportioning credit among different marketing activities in an omnichannel setting (Cui et al., 2021). The paper by Du and Xie (2021) identifies the multi-functionality, interactivity, and AI intelligence stages as key dimensions with ethical implications. They propose a conceptual framework for AI-related CSR, highlighting factors that influence firms' responsible actions in the domain of AI. They argue that AI products are not value-neutral; they shape human experiences and actions and play an active role in ethics and morality (S. Du & Xie, 2021). Berman and Israeli (2020) also explored the impact of descriptive analytics on online retailer performance. Utilizing a synthetic difference-in-differences method, they analyzed data from over 1,500 e-commerce websites and found a 4-10% increase in average weekly revenues post-adoption of retail analytics dashboards. The benefits were exclusive to retailers who adopt and actively use the dashboard. The revenue increase was attributed to the implementation of CRM, personalization, and prospecting technologies, rather than direct changes to pricing or advertising. Analytics adoption enhances product diversity, transaction numbers, website visitors, unique customers, and repeat customer revenue, without affecting basket size. The authors concluded that descriptive analytics have a complementary effect, amplifying the value of additional martech tools (Berman & Israeli, 2021).

Brown (2021) discusses the significant impact of AI and Big Data technologies in automating a substantial portion of physical work, data processing, and data collection tasks across various departments. AI significantly enhances supply chain efficiency, customer experience, and cost management. It's especially transformative in logistics, driving technological advancements and demand for cutting-edge solutions. AI's role extends beyond customer communications to include internal communications within organizations, with challenges in effectively reaching all employees and ensuring engagement with content. In marketing, AI is crucial for understanding market data, optimizing ad spend, and scaling businesses. It helps identify cost-effective strategies and tailor campaigns to specific customer segments. In sectors like mortgage lending, AI is revolutionizing processes through machine learning models and

efficiency engines, allowing for a more holistic view of consumers and optimizing the lending process (Brown, 2021).

Hagiu et al. (2020) highlight that many executives and investors overestimate the competitive advantage conferred by customer data. They differentiate between the benefits of data-enabled learning and regular network effects, noting that the latter often has a longer-lasting and more powerful impact. The article outlines the conditions under which customer-generated data can help build competitive defenses, even in the absence of network effects. The value added by customer data in comparison to the stand-alone value of the offering is a key determinant of its potential to create a lasting competitive edge. It discusses how quickly the marginal value of data-enabled learning drops off and its implications for maintaining a competitive advantage. The depreciation rate of user data and its impact on market entry for competitors are also highlighted. The uniqueness and difficulty in replicating or purchasing customer data are crucial for creating defensible barriers. The challenge of competitors imitating product improvements based on customer data is addressed, and the speed at which insights from user data are incorporated into products is crucial for sustaining a competitive advantage (Hagiu et al., 2020). The challenge of leveraging vast marketing data for effective growth strategies has been examined by Du et al. (2021). Their research emphasized the streetlight effect[2], where there's an overreliance on easily available data, potentially misaligning with growth strategies. They propose using a customer equity framework to explore opportunities using diverse data types for customer acquisition, development, and retention (Du et al., 2021).

2.6. ETHICAL IMPLICATIONS

AI products should satisfy fairness and ethical value alignment, addressing AI biases and integrating ethical principles in AI design. At the consumer level, AI products raise concerns about privacy and cybersecurity due to extensive data collection and usage. Society-level ethical issues include threats to individual autonomy and well-being and potential large-scale unemployment. The paper suggests that companies should engage in socially responsible actions, embed ethical principles in AI design, and address the negative effects of AI on autonomy and wellbeing (Du & Xie, 2021). Puntoni et al. (2021) offer recommendations for managers on addressing consumer concerns with AI, such as enhancing organizational awareness and ethical AI deployment. They propose a research agenda that includes investigating the role of sociocultural factors, psychological processes, and consumer behavior

[2] The streetlight Effect is a theory where a person is looking for his keys in the dark, only under the light of a streetlight, since it's easier to spot, even if the keys weren't lost there, specifically. It can also be applied to companies, where they tend to search for the answer in the easiest spot possible, which can influence the result.

in AI contexts, focusing on understanding, and mitigating the negative impacts of AI on consumer experience (Puntoni et al., 2021).

Hammond (2023) acknowledges the transformative potential of AI, predicting it could undertake a significant portion of human workloads in the future. He raises concerns about the use of AI technology in political interference, particularly in the upcoming US presidential election, and advocates for strategic measures to maintain the US's competitive edge in AI against China, including talent import and favorable regulations (Hammond, 2023). Du and Xie (2021) identify key ethical issues associated with AI-enabled products, including AI biases, ethical design, consumer privacy, cybersecurity, individual autonomy and well-being, and unemployment. They emphasize the need for corporate social responsibility (CSR) in shaping ethical AI and highlight the paradoxical feelings consumers have about AI technologies, which depend on how ethical concerns like AI biases and privacy issues are addressed (Du & Xie, 2021). The ethical and practical challenges of employing AI in marketing have been addressed by Kozinets and Gretzel (2021). They highlight the dilemmas faced by marketers in controlling and understanding AI, emphasizing the shift towards technology dependence. The challenges include AI's incomprehensibility, the potential disconnection in marketer-customer relationships, and the vulnerability due to dependency on large AI platforms (Kozinets & Gretzel, 2021).

2.7. Conceptual Model and Hypothesis Development

The conceptual model states the independent variable for this study as the Content Generator (AI vs Humans), Trust as the mediator variable, and Age Group as the moderator variable, and it has four different dependent variables: Intention (to Follow), Risk Perception, Loyalty, and Behavioral Intention. From these dependent variables, we will do a one single factorial design experiment to test our predictions/hypotheses with the primary goal of investigating the impact of AI-generated content on health outcomes.

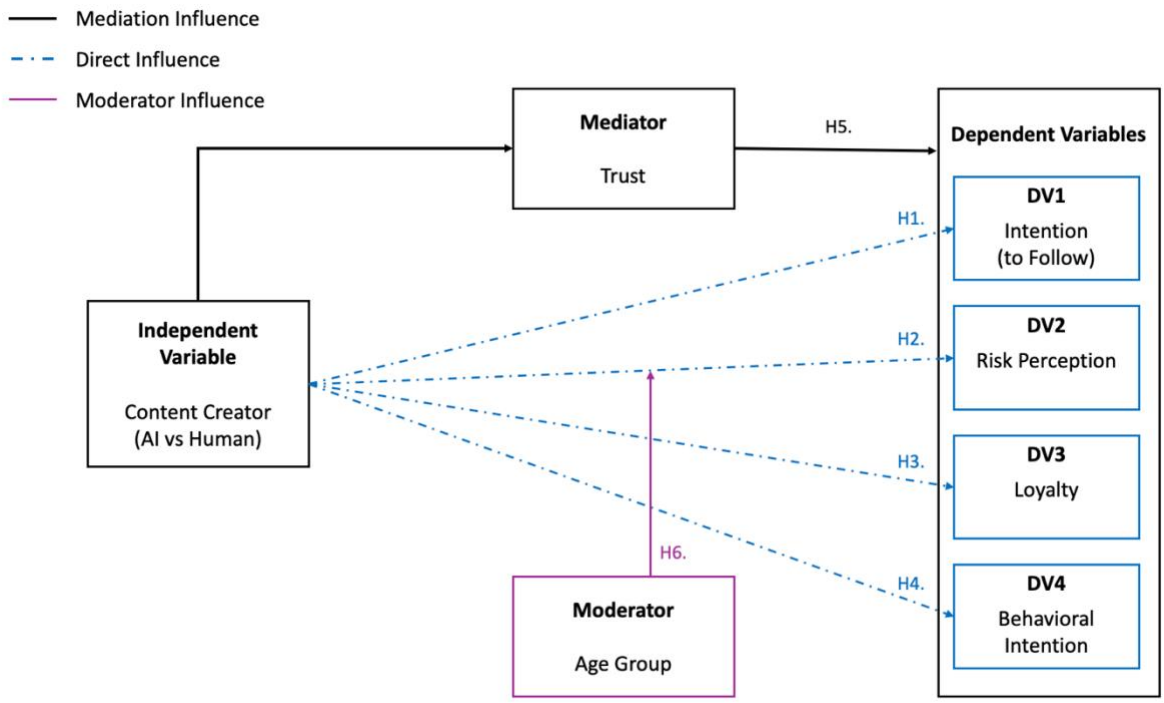

Figure 2 - Conceptual Model

2.7.1. Direct Influence Hypothesis

Aesthetics and design play a role in consumer acceptance and sales, as emphasized by Burnap et al. (2023). High-quality, appealing content, whether generated by AI or humans, can positively influence consumer intent due to its perceived value and attractiveness.

H1. Healthy habits suggested by a human (vs. AI) content creator have a higher (vs. lower) positive impact on the intention to adopt.

Cukier (2021) discusses the ethical implications of AI, including data privacy and algorithmic bias. Consumers may perceive AI-generated content as riskier due to these concerns. Thus, human-generated content might be seen as more trustworthy, reducing risk perception.

H2. Healthy habits are suggested by an AI (vs. Human) content creator as a higher (vs. lower) negative impact on risk perception to adopt.

The study by Liu et al. (2020)shows a strong link between social media portrayal and consumer brand perceptions. Different content creators (AI vs. Humans) can shape these perceptions differently, thereby affecting loyalty.

H3. Healthy habits suggested by AI (vs Human) content creator has a higher (vs. lower) negative level of loyalty.

The influence of virtual influencers on consumer behavior, as explored by Arsenyan & Mirowska (2021) indicates that content creators can significantly affect behavioral intentions by fulfilling user needs and providing immersive experiences.

H4. Health-related information given by a Human (vs AI) content creator has a higher (vs. lower) behavioral intention to get more.

2.7.2. Mediation Influence Hypothesis

Trust is a critical mediator in consumer behavior, as discussed by Puntoni et al. (2021). They outline the importance of trust in interactions with AI, which directly impacts behavioral intentions. Content created by trusted sources (AI or human) will influence the user's intentions.

H5. The relationship between the content creator and the behavioral intention to use social media to get health-related information is mediated by trust.

2.7.3. Moderator Influence Hypothesis

The demographic factor of age influencing risk perception is supported by studies such as those by Burnap et al. (2023), who emphasize that different groups perceive AI differently. Younger generations may be more accepting of AI, whereas older groups might view it with more skepticism.

H6. The relationship between the content creator and the risk perception of adopting suggested healthy habits is moderated by age.

METHODOLOGY

This study investigates the influence of content creator type (AI vs. Human) on adopting healthy habits through a one single factor experimental design. The experiment was conducted via an online survey, targeting a sample size of 200+ respondents, ultimately including 342 participants. The study employed several methodological controls, such as a filter question to ensure participants were active social media users and two attention-check questions to maintain data integrity. Specifically, participants were asked to identify the type of content creator in their scenario (AI or Human) and to select a specific Likert scale option on a particular item. Responses failing these checks were excluded to refine the sample quality.

Participants were briefed on the study's goals, informed of confidentiality, and subjected to CAPTCHA to exclude bots. Our one single factor factorial design experiment explored the interactions between content creators (AI vs. Human) and various outcome variables related to healthy habits adoption (Intention, Risk Perception, Loyalty, and Behavioral Intention). Random assignment to AI or human content scenarios was employed, with manipulation and attention checks ensuring data quality. Measures included Likert scale items (1-7) to evaluate intention (Eckhardt et al., 2009), risk perception (Hilverda & Kuttschreuter, 2018), loyalty (Umashankar et al., 2017), behavioral intention (Venkatesh et al., 2012) and trust (Gefen et al., 2003). Results were analyzed using Hayes' model 4 to assess mediation effects setting the final sample of 156 participants (56.4% male; 48.7% aged 25-34) which provided insights into the differential impacts of AI versus human-generated content on health outcomes and the potential for AI in health promotion, informing marketing strategies and public health messaging.

The primary goal of this study was to not just test the significance of direct relations between the content creator with variables like risk perception but to test how trust mediates the relationship between them.

3.1. PARTICIPANTS AND DESIGN

After filtering out the participants, our final sample consisted of 156 participants (56.4% male; SD=0.524). The majority of our sample (48.7%; M=5.1, SD=0.893) are between 25 and 34 years old. Their level of education is almost all split between major, Bachelor (30.8%; M=5.51, SD=1.694), and Master (52.6%), representing a high level of education for the majority of the sample (83.4% cumulative percent of Bachelors and Masters). Most of the participants in the sample size are currently working (89.8%, cumulative percent of Student workers, Self-employers, and Employers working for others; M=4.36, SD=1.113). The monthly income will not be considered, since the majority of the participants (53.2%) choose to not declare theirs.

3.2. PROCEDURE AND STIMULI

Participants were not informed that the survey was a one single factor factorial design experiment and that in one response they would be assigned with random scenario (AI or Human). The participants were randomly and equally assigned to the two scenarios (50.0%; M=0.5, SD=0.502), following the two experimental conditions (Campbell et al., 2013).

In the briefing of the study, the participants were informed of the goal of the study without giving any explanation of the experiment itself, rather, informing that the response was confidential, and the participant could opt out at any time.

After giving the authorization to start the survey, the participants needed to do a CAPTCHA which ensured that bots could not pursue in the survey flow if detected. Then the participants were filtered between the ones who had a social media account and the ones who didn't (excluded from the study). Following the selection, the participants were randomly presented with a scenario (AI or Human), and only the content creator was manipulated in the description of the scenario.

3.3. MEASURES

Intention (to Follow) was evaluated by asking participants to indicate their level of agreement with three items on a Likert scale (1-Strongly disagree; 7-Strongly agree) sourced from (Eckhardt et al., 2009). The mean score of these items was calculated to compare the intention to adopt healthy habits in the future between the Human scenario (M=4.28, SD=1.24) and the AI scenario (M=3.70, SD=1.28). Higher scores indicated a greater willingness to adopt healthy habits.

Risk Perception (RP) was measured using four items on a Likert scale (1-Strongly disagree; 7-Strongly agree) adapted from (Hilverda & Kuttschreuter, 2018). The average of these items was used to compare the perception of risk between the Human scenario (M=3.69, SD=1.39) and the AI scenario (M=5.07, SD=1.24). Higher scores signified a greater sense of risk associated with the dietary choices proposed by the content creator.

Loyalty was assessed by evaluating participants' likelihood to agree with two items -Attitudinal Loyalty (AL) and Behavioral Loyalty (BL) - on a Likert scale (1-Very Unlikely; 7-Very Likely) based on (Umashankar et al., 2017). The mean scores were compared between the Human scenario (M=4.67, SD=1.50) and the AI scenario (M=4.01, SD=1.73). Higher scores indicated a greater tendency to remain loyal to the promoted brand.

Behavioral Intention (BI) was determined by asking participants to rate their agreement with three items on a Likert scale (1-Strongly disagree; 7-Strongly agree) borrowed from

(Venkatesh et al., 2012). The mean scores were used to compare intentions to use social media for healthy content between the Human scenario (M=4.18, SD=1.20) and the AI scenario (M=3.72, SD=1.48). Higher scores represented a stronger intention to continue using social media for health-related information.

Trust (T) was evaluated through seven items on a Likert scale (1-Strongly disagree; 7-Strongly agree) adapted from (Gefen et al., 2003). The mean scores were compared to assess the level of trust in the content presented in the Human scenario (M=3.77, SD=0.91) versus the AI scenario (M=3.41, SD=1.19). Higher scores indicated a greater level of trust in the healthy content provided.

As a manipulation check, we asked participants to indicate, using two different items, whether the content creator described in the scenario at the beginning of the study was an AI assistant or a group of Human health experts on a seven-point Likert scale (1-Strongly Disagree; 7-Strongly Agree). The level of agreement indicated the confidence and attention of the participant's response.

As an attention check, we asked participants to choose, in one item, option 3 on a seven-point Likert scale (1-Strongly Disagree; 7-Strongly Agree). The participants who had chosen other options were excluded from the study.

Table 2 - Variables Significance

Variable		**F**	**Sig.**	**t**	**df**	**One-Sided p**	**Two-Sided p**
Intention (to Follow)	Equal variances assumed	1.089	0.298	5,727	154	0.000	0.000
	Equal variances not assumed			5.727	153.832	0.000	0.000
Risk Perception	Equal variances assumed	1.510	0.221	-6.523	154	0.000	0.000
	Equal variances not assumed			-6.523	152.040	0.000	0.000
Loyalty	Equal variances assumed	2.470	0.118	2.525	154	0.006	0.013
	Equal variances not assumed			2.525	151.064	0.006	0.013

Behavioral Intention	Equal variances assumed	7.326	0.008	2.121	154	0.018	0.036
	Equal variances not assumed			2.121	148.009	0.018	0.036
Trust	Equal variances assumed	5.323	0.022	2.124	154	0.018	0.035
	Equal variances not assumed			2.124	143.998	0.018	0.035

Table 3 - Means Comparison Between Significant Variables

Scenario		**Intention (to Follow)**	**Risk Perception**	**Loyalty**	**Behavioral Intention**
Human	Mean	4.2778	3.6891	4.6667	4.1795
	N	78	78	78	78
	Std. Deviation	1.24191	1.39234	1.50036	1.20328
AI	Mean	3.1197	5.0673	4.0128	3.7222
	N	78	78	78	78
	Std. Deviation	1.28368	1.24230	1.72637	1.47555
Total	Mean	3.6987	4.3782	4.3397	3.9509
	N	156	156	156	156
	Std. Deviation	1.38646	1.48582	1.64512	1.36143

RESULTS AND DISCUSSION

To examine the differences between scenarios/content creators (AI vs. Human), we performed independent samples t-tests using SPSS, with the content creator as the grouping factor, having all the variables tested significant differences between the two scenarios. Intention (to Follow) as the dependent variable confirmed the effectiveness of our manipulation, with participants faced with the AI as the content creator scenario reporting lower intention to adopt healthy habits (M=3.12, SD=1.28) than participants faced with the Human as the content creator scenario (M=4.28, SD=1.24; p=0.000). Risk Perception as the dependent variable confirmed the effectiveness of our manipulation, with participants faced with the AI as the content creator scenario reporting higher risk perception on adopting AI-suggested healthy habits (M=5.07, SD=1.24) than participants faced with the Human as the content creator scenario (M=3.69, S=1.39; p=0.000). Loyalty as the dependent variable confirmed the effectiveness of our manipulation, with participants faced with the AI as the content creator scenario reporting lower attitudinal and behavioral loyalty (M=4.01, SD=1.73) than participants faced with the Human as the content creator scenario (M=4.68, SD=1.5; p=0.013). Behavioral Intention as the dependent variable confirmed the effectiveness of our manipulation, with participants faced with the AI as the content creator scenario reporting lower behavioral intention to continue using social media for health-related information (M=3.72, SD=1.48) than participants faced with the Human as the content creator scenario (M=4.18, SD=1.20; p=0.036).

In sum, results clearly show that human-generated content is more effective in fostering intention, loyalty, and behavioral intention, while AI-generated content is perceived as riskier. These findings align with the literature that suggested that human elements in content creation can enhance consumer engagement and reduce perceived risks.

To test our mediation influence hypothesis (H5.) we used model 4 of the Andrew Hayes process (Campbell et al., 2013) to test the indirect effect (see more on Annex B) of content creator (AI vs Human) on behavioral intention through trust. It came out to be significant (-0.1447, BootSE=0.0746, 95% BootCI=[-0.3058, -0.0119]) which indicates that trust significantly mediates the relationship between content creator and behavioral intention.

To test our moderation influence hypothesis (H6.) we used model 1 of the Andrew Hayes process (Campbell et al., 2013) to test the effect (see more on Annex C) of content creator (AI vs Human) on risk perception through age groups. The model was significant (R=0.4682, R^2=0.2192, MSE=1.7577, F=14.2258, df1=3, df2=152, p<0.0001), but when we look to the interaction between the scenario (content creator) and the age group, demonstrates that it is not significant (p = 0.5044), which means that age does not significantly moderate the relationship between the content creator and risk perception.

Table 4 - Hypothesis Output

Hypothesis	**Result**
H1. Healthy habits suggested by a human (vs. AI) content creator have a higher (vs. lower) positive impact on the intention to adopt.	Supported
H2. Healthy habits are suggested by an AI (vs. Human) content creator as a higher (vs. lower) negative impact on risk perception to adopt.	Supported
H3. Healthy habits suggested by AI (vs Human) content creator has a higher (vs. lower) negative level of loyalty.	Supported
H4. Health-related information given by a Human (vs AI) content creator has a higher (vs. lower) behavioral intention to get more.	Supported
H5. The relationship between the content creator and the behavioral intention to use social media to get health-related information is mediated by trust.	Supported
H6. The relationship between the content creator and the risk perception of adopting suggested healthy habits is moderated by age.	Not Supported

CONCLUSIONS AND FUTURE RESEARCH

In this study, we examined the impact of AI versus human content creators on trust and behavioral intentions to use social media for health-related information. The results reveal that AI-generated content can enhance consumer engagement and promote healthier choices, encouraging businesses to personalize their marketing strategies while maintaining transparency to build consumer trust. However, the study's limitations, such as a small and homogenous sample and a focus on short-term behavior changes, suggest the need for future research to include a more diverse participant pool and investigate the complex dynamics between AI and human content, as well as the ethical challenges involved.

5.1. THEORETICAL IMPLICATIONS

This research contributes valuable insights into the role of AI in the healthcare information context and its implications for user trust and behavior and supports the theoretical frameworks proposed by Du & Xie (2021) and Kozinets & Gretzel (2021) on the multi-functionality and ethical implications of AI in marketing. Additionally, the study aligns with Puntoni et al. (2021) on the strategic use of AI to enhance consumer experience and trust.

5.2. MANAGERIAL IMPLICATIONS

For workers who are faced with AI tech daily, this study highlights the potential of AI-generated content to improve engagement and influence consumer behavior positively. Businesses can leverage AI to create personalized and appealing content that aligns with consumer preferences, thereby searching for better engagement and promoting healthier choices. This strategic use of AI can lead to more effective marketing campaigns and potentially higher conversion rates, as suggested by Brown (2021) regarding optimizing ad spend and scaling businesses. Managers can also consider the ethical implications of deploying AI in marketing. Ensuring AI systems are transparent, fair, and aligned with ethical standards is crucial for maintaining consumer trust.

5.3. LIMITATIONS AND FUTURE RESEARCH

This study has a couple of limitations, starting with the sample size which is not bigger, and the fact that it was distributed between friends, family, and co-workers which led to a higher level of education between the sample size. Additionally, in the demographics section, the

study segmented the participants into age groups instead of asking for the age number, which would possibly turn out to be a better way to test the age as a moderator. Also, the study focuses on short-term engagement and behavior changes, leaving long-term effects unexplored. Another limitation is the rapidly evolving nature of AI technology. As AI capabilities advance, the effectiveness and implications of AI-generated content may change, necessitating continuous research to keep pace with technological developments.

Future research could investigate the effects of these different AI roles on user perceptions and behavior. It would also be valuable to examine the potential bias in AI algorithms and its impact on user trust and behavior, as well as the conditions under which AI might see assimilation rather than contrast in social comparisons. It can be improved by Expanding the demographic scope to include a more diverse participant pool can enhance the generalizability of the findings. Researchers should also explore the interplay between AI-generated and human-generated content to identify optimal strategies for integrating both types of content in marketing campaigns. Investigating the ethical implications of AI in more depth must be the. The most critical area for future research. As suggested by (Eapen et al., 2023), understanding how to balance the benefits of AI with ethical considerations will be vital for the sustainable and responsible use of AI.

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APPENDIX

APPENDIX A – ETHICS COMMITTEE REPORT

This is to certify that
Project No.: **DDMKT2024-7-75885**
Project Title: **BYTE BY BYTE: INFLUENCE OF CONTENT GENERATOR Investigating the impact of AI-generated content on health outcomes**
Principal Researcher: **Armindo Gonçalves**

according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center this project was considered to meet the requirements of the NOVA IMS Internal Review Board, being considered **APPROVED** on 7/7/2024.

It is the Principal Researcher's responsibility to ensure that all researchers and stakeholders associated with this project are aware of the conditions of approval and which documents have been approved.

The Principal Researcher is required to notify the Ethics Committee, via amendment or progress report, of
- Any significant change to the project and the reason for that change;
- Any unforeseen events or unexpected developments that merit notification;
- The inability of the Principal Researcher to continue in that role or any other change in research personnel involved in the project.

Lisbon, 7/7/2024

NOVA IMS Ethics Committee
ethicscommittee@novaims.unl.pt

APPENDIX B – THEORETICAL BACKGROUND ON THE USE OF AI ON SOCIAL MEDIA

Topic	Research / Observations	References
Virtual influencers in social media	The study explores the integration of virtual agents in human networks, focusing on virtual influencers on social media. The research finds that the human-like virtual influencer receives lower positive reactions, which aligns with the Uncanny Valley hypothesis.	(Arsenyan & Mirowska, 2021)
User engagement	The article highlights how virtual influencers can fulfill user needs for identity, diversion, and social interaction on social media. The study observes that human-like virtual influencers may evoke complex emotional responses due to their near-human appearance.	(Arsenyan & Mirowska, 2021)
Utilization of marketing data	Examines the challenge of leveraging vast marketing data to develop effective growth strategies. Discusses the "streetlight effect," where there's an overreliance on easily available data, which may not align with growth strategies.	(S. Du & Xie, 2021)
Challenges in marketing data	Highlights historical examples of the streetlight effect in marketing data, like retail scanner data, CRM data, and clickstream data.	(S. Du & Xie, 2021)
Opportunities in marketing data for customer acquisition	Examines the use of social network data in enhancing customer acquisition strategies and targeting.	(S. Du & Xie, 2021)
Marketer's dilemma	Addresses the challenges marketers face in controlling and understanding AI, highlighting the shift in marketing towards technology dependence, where marketers are more users than creators of AI.	(Kozinets & Gretzel, 2021)

Challenges in AI marketing	Discusses three main challenges: incomprehensibility, disconnection, and vulnerability. Vulnerability highlights the dependency on large AI platforms, making marketers susceptible to changes in AI algorithms. Recommends marketers to diversify their understanding of consumers, using AI to supplement rather than replace human insight.	(Kozinets & Gretzel, 2021)
Consumer experience with AI	The article presents a framework conceptualizing AI as an ecosystem with four capabilities: listening, predicting, producing, and communicating. The research highlights the tension between AI's benefits (e.g., personalization, efficiency) and costs (e.g., loss of privacy, feelings of being misunderstood or replaced).	(Puntoni et al., 2021)
Consumer experience with AI	Cukier challenges the view presented by Puntoni et al. about AI's negative implications for consumer experience. Emphasizes that AI, correctly applied, can enhance consumer experiences and address issues like data privacy and algorithmic bias.	(Cukier, 2021)
Sociological and psychological impacts of AI	Suggests that consumer experiences with AI can lead to negative emotions and behaviors, such as reactance and decreased satisfaction.	(Puntoni et al., 2021)
Managerial implications of AI	Proposes a research agenda that includes investigating the role of sociocultural factors, psychological processes, and consumer behavior in AI contexts.	(Puntoni et al., 2021)
Reframing AI in marketing	Suggests that AI's potential to exceed human capabilities should be embraced rather than viewed as a threat to consumer autonomy.	(Cukier, 2021)
Opportunities in AI for consumer engagement	Suggests that AI can be a tool to overcome societal issues like discrimination if implemented thoughtfully. Advocates for a balanced view of AI, considering both its advantages and the need for ethical implementation in marketing strategies.	(Cukier, 2021)

Generative AI and democratizing innovation	Explores the concept of democratizing innovation and the role generative AI can play in augmenting human creativity. Highlights how generative AI can assist in overcoming these challenges by generating and refining ideas and supporting divergent thinking.	(Eapen et al., 2023)
Overcoming challenges in innovation	Explores the use of generative AI in promoting divergent thinking and challenging expertise bias in idea generation.	(Eapen et al., 2023)
Practical applications of Generative AI	Provides examples of how generative AI can be used in different stages of the innovation process, from idea generation to product development.	(Eapen et al., 2023)
Market inefficiencies in digital advertising	Examines four market inefficiencies in digital advertising: ad effect measurement, advertising channel friction, ad blocking, and ad fraud.	(Gordon et al., 2021)
Ad effect measurement	Explores the difficulties in ad measurement due to strategic advertiser behavior, platform optimization, and consumer reactions.	(Gordon et al., 2021)
Ad blocking and ad fraud concerns	Examines the rise of ad-blocking technologies and their impact on digital advertising revenues.	(Gordon et al., 2021)
Challenges in omnichannel marketing	Identifies three primary challenges in omnichannel marketing: data access and integration, marketing attribution, and consumer privacy protection.	(Cui et al., 2021)
Marketing attribution in omnichannel marketing	Explores the complexity of attributing the effectiveness of marketing interventions across multiple customer touchpoints.	(Cui et al., 2021)

Ethical challenges of AI-enabled products	The paper identifies AI biases, ethical design, consumer privacy, cybersecurity, individual autonomy and wellbeing, and unemployment as key ethical issues. It emphasizes the need for corporate social responsibility (CSR) in shaping ethical AI.	(S. Du & Xie, 2021)
Consumers mixed feelings toward AI	Consumers have paradoxical feelings about AI technologies, leading to ethical concerns. Trust in AI-enabled products depends on how ethical concerns like AI biases and privacy issues are addressed.	(S. Du & Xie, 2021)
Dimensions of AI-enabled products	The paper identifies multi-functionality, interactivity, and AI intelligence stages as key dimensions with ethical implications. It proposes a conceptual framework for AI-related CSR, highlighting factors that influence firms' responsible actions in the domain of AI.	(S. Du & Xie, 2021)
Portraying humans as machines to promote health	Five studies with various stimuli were conducted, revealing that portraying humans as machines activates expectations for a cognitive approach to eating. This portrayal only leads to healthier choices among those who believe they can meet such cognitive expectations.	(Weihrauch & Huang, 2021)
Aesthetics in market acceptance	Aesthetics play a crucial role in product acceptance, with a significant impact on sales. For instance, in the automotive industry, an enhanced design can boost sales by 30% or more.	(Burnap et al., 2023)
Machine learning model	The model combines elements from generative adversarial networks (GAN) and supervised learning, trained with data from an automotive partner. This model can predict the appeal of new aesthetic designs and generate controllable new designs.	(Burnap et al., 2023)
Portraying health in food advertising	Investigated how health is communicated through visual and verbal cues.	(Berman & Israeli, 2021)

Value of Descriptive Analytics	Explored the impact of descriptive analytics on online retailer performance. Found a 4-10% increase in average weekly revenues post-adoption of retail analytics dashboards. Concluded that descriptive analytics have a complementary effect, amplifying the value of additional martech tools.	(Berman & Israeli, 2021)
Ad spend optimization	AI in marketing is crucial for understanding market data, optimizing ad spend, and scaling businesses. It helps identify cost-effective strategies and tailor campaigns to specific customer segments.	(Brown, 2021)
Consumer-created visual content on social media	The model identifies brand attributes in images (like glamorous, rugged, healthy, fun). Validated model performance using human judges and survey data.	(Liu et al., 2020)
Conditions for competitive defenses	The article outlines conditions under which customer-generated data can help build competitive defenses, even in the absence of network effects.	(Hagiu et al., 2020)
Proprietary nature of data	The uniqueness and difficulty in replicating or purchasing customer data are crucial for creating defensible barriers.	(Hagiu et al., 2020)
Incorporation of insights from data	The speed at which insights from user data are incorporated into products is crucial for sustaining a competitive advantage.	(Hagiu et al., 2020)

APPENDIX C – CONSTRUCTS AND MEASUREMENT ITEMS

Constructs	Items	Measurement Items	References	ABS
Intention (INT)	I1	I predict that I will use [CV databases] in the future.	(Eckhardt et al., 2009)	3
	I2	I plan to use [CV databases] in the future.		
	I3	I intend to use [CV databases] in the future.		
Perceived Privacy Risk (PPR)	PPR1	Please rate your overall perception of the privacy risk involved when using the [OSN].	(Krasnova et al., 2010)	3
	PPR2	Overall, I see no real threat to my privacy due to my presence on the OSN.		
	PPR3	I fear that something unpleasant can happen to me due to my presence on the OSN.		
	PPR4	I feel safe publishing my personal information on the OSN.		
	PPR5	Overall, I find it risky to publish my personal information on the OSN.		
Attitudinal Loyalty (AL)	AL1	How likely are you to recommend this gym?	(Umashankar et al., 2017)	4
Behavioral Loyalty (BL)	BL1	How likely are you to be a member of this gym in 6 months?	(Umashankar et al., 2017)	4
Escape Motivation (EM)	EM1	To keep yourself company.	(Korgaonkar & Wolin, 1999)	3
	EM2	To get advice to help solve your daily problems.		
	EM3	To forgot about your problems.		
	EM4	To tune out what's going on around you.		
	EM5	To relax yourself.		
	EM6	To chat with people who share the same interest on the network.		
	EM7	To make friends with people who share the same interest on the network.		
	EM8	To keep yourself from being bored.		
Temporal Dissociation (TD)	TD1	Time appears to go by very quickly when I am using the Web.	(Agarwal & Karahanna, 2000)	4
	TD2	Sometimes I lose track of time when I am using the Web.		
	TD3	Time flies when I am using the Web.		
	TD4	Most times when I get on the Web, I end up spending more time that I had planned.		
	TD5	I often spend more time on the Web than I had intended.		
	RP1	I think that organic food is bad for my health.		4

Risk Perception (RP)	RP2	I think that there are many risks attached to organic food.	(Hilverda & Kuttschreuter, 2018)	
	RP3	I think that organic food has many disadvantages.		
	RP4	I think that organic food is dangerous for my health.		
Trust (T)	T1	Based on my experience with the online vendor in the past, I know it is honest.	(Gefen et al., 2003)	4
	T2	Based on my experience with the online vendor in the past, I know it cares about customers.		
	T3	Based on my experience with the online vendor in the past, I know it is not opportunistic.		
	T4	Based on my experience with the online vendor in the past, I know it provides good service.		
	T5	Based on my experience with the online vendor in the past, I know it is predictable.		
	T6	Based on my experience with the online vendor in the past, I know it is trustworthy.		
	T7	Based on my experience with the online vendor in the past, I know it knows its market.		
Behavioral Intention (BI)	BI1	I intend to continue using mobile internet in the future.	(Venkatesh et al., 2012)	4
	BI2	I will always try to use mobile internet in my daily life.		
	BI3	I plan to continue to use mobile internet frequently.		

APPENDIX D – PARTICIPANTS SCENARIO DISTRIBUTION

Scenario	Frequency	Percent (%)
AI	78	50.0
HUMAN	78	50.0
Total	156	100.0

APPENDIX E – PARTICIPANTS DEMOGRAPHICS (GENDER)

Gender	Frequency	Percent (%)
Male	88	56.4
Female	66	42.3
Other	2	1.3
Total	156	100.0

APPENDIX F – PARTICIPANTS DEMOGRAPHICS (AGE GROUPS)

Age Group	Frequency	Percent (%)
18 – 24 years old	39	25.0
25 – 34 years old	76	48.7
35 – 44 years old	31	19.9
45 – 54 years old	7	4.5
55 – 64 years old	3	1.9
Total	156	100.0

APPENDIX G – PARTICIPANTS DEMOGRAPHICS (LEVEL OF EDUCATION)

Highest Level of Education	Frequency	Percent (%)
Less than High School Diploma	1	0.6
High School Diploma	9	5.8
Some university, but no degree	3	1.9
Bachelor's Degree	48	30.8
Post Graduate's Degree	13	8.3
Master's Degree	82	52.6
Total	156	100.0

APPENDIX H – PARTICIPANTS DEMOGRAPHICS (OCCUPATION)

Occupation	Frequency	Percent (%)
Unemployed	2	1.3

Student	12	7.7
Student worker	24	15.4
Self-employed	12	7.7
Employee (working for others)	104	66.7
Retired	2	1.3
Total	156	100.0

APPENDIX I – PARTICIPANTS DEMOGRAPHICS (MONTHLY INCOME)

Monthly Income	**Frequency**	**Percent (%)**
Less than 500 euros	12	7.7
Prefer not to answer	83	53.2
Between 501 and 1000 euros	2	1.3
Between 1001 and 2000 euros	23	14.7
Between 2001 and 3000 euros	19	12.2
More than 3000 euros	17	10.9
Total	156	100.0

ANNEXS

ANNEX A – SURVEY MOCKUP

Block 1: Introduction

[Consent Question]

(if "I do not agree to participate" is selected, go to the end of the survey)

Dear participant,

This survey is being conducted as part of an academic research project at the NOVA Information Management School in which we are interested in examining consumer perception on healthy products advertising.

It should take you about only x minutes to read the instructions and answer all the questions.

Carefully read the provided scenario, put yourself in the situation described, and imagine as vividly as possible how you would feel and behave in this situation.

Remember that your participation in this survey is voluntary, which means that you are free to participate or not, as well as give up at any time. However, your responses are very important, completely anonymous, and will be used only for academic purposes. There is no risk involved in answering any of the questions.

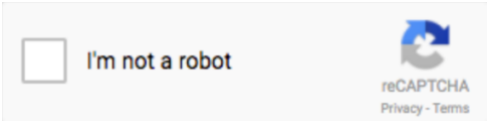
Informed Consent Form

I declare that I am 18 or over 18 and agree to participate in this research. I declare that I was informed that my participation in this study is voluntary and that I can leave this survey at any time without penalty, and all data is confidential. I understand that I will evaluate responses and that this study does not offer serious risks.

- I agree to participate.
- I do not agree to participate.

[Captcha]

(mandatory)



Block 2: Filter

[Social Media Usage]

(if "No" is selected, go to the end of the survey)

Do you have a social media account?

- Yes.
- No.

Block 3: Scenarios

(50% randomizer)

[Human Scenario] – 50%

Imagine yourself in the following situation:

You've recently noticed an influx of posts promoting healthy products on your social media feed. Although initially, you didn't pay much attention, reckoning that the algorithm is just showing you content based on your interests. However, as you spent more time engaging with these posts, you found yourself receiving more of them.

One day, while scrolling through your social media app, you come across a post of a top-of-mind health brand created by the brand's team of health human experts and dietitians.

This post highlights the launch of a new healthy snack called YES!, providing a detailed description of its benefits. Alongside, the post created by the brand's team of health human experts and dietitians features personalized workout routines and nutritious recipes,

complemented by stories from personas who claim that have tested the snack and highlighted its benefits.

After seeing the post created by the brand's team of health human experts and dietitians, you decide to explore more about it in the social media brand's profile and open the brand's website where they sell the new snack.

[AI Scenario] – 50%

Imagine yourself in the following situation:

You've recently noticed an influx of posts promoting healthy products on your social media feed. Although initially, you didn't pay much attention, reckoning that the algorithm is just showing you content based on your interests. However, as you spent more time engaging with these posts, you found yourself receiving more of them.

One day, while scrolling through your social media app, you come across a post of a top-of-mind health brand created by Artificial Intelligence.

This post highlights the launch of a new healthy snack called YES!, providing a detailed description of its benefits. Alongside, the post created by Artificial Intelligence features personalized workout routines and nutritious recipes, complemented by stories from personas who claim that have tested the snack and highlighted its benefits.

After seeing the post created by Artificial Intelligence, you decide to explore more about it in the social media brand's profile and open the brand's website where they sell the new snack.

Block 4: Dependent Variables

[Intention to Follow] - (Eckhardt et al., 2009)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree

I predict that I will adopt the healthy habits suggested by the content creator in the future.	
I plan to adopt the healthy habits suggested by the content creator in the future.	
I intend to adopt the healthy habits suggested by the content creator in the future.	

[Risk Perception] - (Hilverda & Kuttschreuter, 2018)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
I think that dietary choices proposed by the content creator is bad for my health.							
I think that there are many risks attached to dietary choices proposed by the content creator.							
I think that dietary choices proposed by the content creator has many disadvantages.							
I think that dietary choices proposed by the content creator is dangerous for my health.							

[Interest Pursuit] - (Douglas & Urban, 1977)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
I often try to adopt a healthy habit to see what it's like.							
I often try a healthy habit before my friends do.							
I like to try new and different things.							
My friends often come to me for advice.							

Block 5: Mediator

[Content Creativity]

Imagine you are impacted by the ad post as described in the scenario. Please rate the degree of creativity you believe the post has:

1. Highly Uncreative	2.	3.	4.	5.	6.	7. Highly Creative

[Escape Motivation] - (Korgaonkar & Wolin, 1999)

Based on the scenario you read, to what extent do you agree with the following statements regarding your reasons for using social media platforms?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree

To keep yourself company.
To get advice to help solve your daily problems.
To forget about your problems.
To tune out what's going on around you.
To chat with people who share the same interests on the network.
To make friends with people who share the same interests on the network.
To keep yourself from being bored.

[Perceived Privacy Risk] – (Krasnova et al., 2010)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
Overall, I see no real threat to my privacy due to my presence on social media platforms.							
I fear that something unpleasant can happen to me due to my presence on social media platforms.							
I feel safe publishing my personal information on social media platforms.							
Overall, I find it risky to publish my personal information on social media platforms.							

[Trust] - (Gefen et al., 2003)

Based on the scenario you read, where the brand presented a post on a social media platform about healthy habits, dietary choices, and physical routines, please indicate your level of agreement with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
Based on my past experiences with social media content, I know the brand is honest.							
Based on my past experiences with social media content, I know the brand cares about customers.							
Based on my past experiences with social media content, I know the brand is not opportunistic.							
Based on my past experiences with social media content, I know the brand provides good service.							
Based on my past experiences with social media content, I know the brand is predictable.							
Based on my past experiences with social media content, I know the brand is trustworthy.							
Based on my past experiences with social media content, I know the brand knows its market.							

[Behavioral Intention] - (Venkatesh et al., 2012)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
I intend to continue using social media to pursue healthy habits recommendations in the future.							
I will always try to use physical routines recommended by the social media brand in my daily life.							
I plan to continue seeing the brand content frequently.							

[Temporal Dissociation] - (Agarwal & Karahanna, 2000)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
Time seems to pass quickly when I am using social media platforms.							
Sometimes I lose track of time while using social media platforms.							
Time flies while using platforms.							
Most times when I get on social media platforms, I end up spending more time than I had planned.							
I often spend more time on social media platforms than I had intended.							

[Attitudinal Loyalty & Behavioral Loyalty] - (Umashankar et al., 2017)

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Very Unlikely	2.	3.	4.	5.	6.	7. Very Likely
How likely are you to recommend a social media brand that you like?							
How likely are you to engage with a social media brand that you like within the next 6 months?							

Block 6: Checks

[Attention]

Based on the scenario you read previously, do you consider that you remember it well?

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree

[Manipulation & Attention]

Based on the scenario you read, to what extent do you agree with the following statements?

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
The social media post was created by health experts and dietitians.							
The social media post was created by an artificial intelligence assistant.							
To confirm your attention, please choose option 3 for this question.							

The name of the healthy snack presented by the brand is YAS!

Block 7: Demographics

[Gender]

Please indicate your gender.

- Female
- Male
- Other

[Age]

Please indicate your age range.

- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65+ years old

[Degree]

What is the highest level of education you have completed?

- Less than high school diploma
- High school diploma
- Some university, but no degree
- Bachelor's Degree
- Postgraduate's Degree
- Master's Degree
- Doctorate

[Occupation]

What is your occupation?

- Unemployed

- Student
- Student worker
- Self-employed
- Employee (working for others)
- Retired

[Income]

Which of the following best describes your monthly gross income?

- Less than 500 euros
- Between 501 and 1000 euros
- Between 1001 and 2000 euros
- Between 2001 and 3000 euros
- More than 3000 euros
- Prefer not to answer

Survey link: https://novaims.eu.qualtrics.com/jfe/form/SV_73WkbtSlcxIHnpQ

ANNEX B – ANDREW HAYES MACRO (MODEL 4) TRUST MEDIATION INFLUENCE

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

Written by Andrew F. Hayes, Ph.D. www.afhayes.com

Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****

Model : 4

Y : TRUST

X : SCENARIO

M1 : INT

M2 : RISK

M3 : LOY

M4 : BI

Sample

Size: 156

****

OUTCOME VARIABLE:

INT

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4190	.1756	1.5951	32.7936	1.0000	154.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.2778	.1430	29.9140	.0000	3.9953	4.5603
SCENARIO	-1.1581	.2022	-5.7266	.0000	-1.5576	-.7586

****

OUTCOME VARIABLE:

RISK

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4653	.2165	1.7410	42.5505	1.0000	154.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.6891	.1494	24.6930	.0000	3.3940	3.9842
SCENARIO	1.3782	.2113	6.5231	.0000	.9608	1.7956

****

OUTCOME VARIABLE:

LOY

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1994	.0397	2.6157	6.3742	1.0000	154.0000	.0126

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.6667	.1831	25.4835	.0000	4.3049	5.0284
SCENARIO	-.6538	.2590	-2.5247	.0126	-1.1655	-.1422

****

OUTCOME VARIABLE:

BI

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1685	.0284	1.8126	4.4989	1.0000	154.0000	.0355

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.1795	.1524	27.4172	.0000	3.8783	4.4806
SCENARIO	-.4573	.2156	-2.1211	.0355	-.8831	-.0314

****

OUTCOME VARIABLE:

TRUST

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5281	.2789	.8575	11.6055	5.0000	150.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.9716	.4406	4.4751	.0000	1.1011	2.8421
SCENARIO	-.0216	.1760	-.1226	.9026	-.3693	.3261
INT	.0812	.0646	1.2576	.2105	-.0464	.2089
RISK	-.0432	.0584	-.7399	.4605	-.1585	.0721
LOY	.0626	.0519	1.2054	.2300	-.0400	.1651
BI	.3166	.0640	4.9481	.0000	.1901	.4430

********** DIRECT AND INDIRECT EFFECTS OF X ON Y **********

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-.0216	.1760	-.1226	.9026	-.3693	.3261

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	-.3392	.1417	-.6232	-.0672
INT	-.0941	.0757	-.2508	.0525
RISK	-.0595	.0857	-.2268	.1135
LOY	-.0409	.0452	-.1514	.0260
BI	-.1447	.0746	-.3058	-.0119

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

ANNEX C – ANDREW HAYES MACRO (MODEL 1) TRUST MODERATION INFLUENCE

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

Written by Andrew F. Hayes, Ph.D. www.afhayes.com

Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****

Model : 1

Y : RISK

X : SCENARIO

W : Age_

Sample

Size: 156

****

OUTCOME VARIABLE:

RISK

Model Summary

R R-sq MSE F df1 df2 p

.4682 .2192 1.7577 14.2258 3.0000 152.0000 .0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.9751	.9239	4.3025	.0000	2.1497	5.8005
SCENARIO	.5384	1.2582	.4279	.6693	-1.9474	3.0241
Age_	-.0578	.1842	-.3137	.7541	-.4218	.3062
Int_1	.1634	.2442	.6691	.5044	-.3191	.6459

Product terms key:

Int_1 : SCENARIO x Age_

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0023	.4477	1.0000	152.0000	.5044

Focal predict: SCENARIO (X)

Mod var: Age_ (W)

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/
  SCENARIO   Age_      RISK      .
```

BEGIN DATA.

.0000 4.0000 3.7439

1.0000 4.0000 4.9360

.0000 5.0000 3.6861

1.0000 5.0000 5.0416

.0000 6.0000 3.6283

1.0000 6.0000 5.1472

END DATA.

GRAPH/SCATTERPLOT=

Age_ WITH RISK BY SCENARIO .

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

------ END MATRIX -----

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação

Universidade Nova de Lisboa