Title: "Lies Have Short Legs": the Role of Front-of-Pack Nutritional Labels and the Disclosure of Manipulative Intent in Overcoming Potentially Misleading Elements

Abstract: The global raise of overweight and obesity is increasing the incidence of noncommunicable diseases. The presence of potentially misleading elements (PMEs) on food packaging might exacerbate the situation by causing consumers to unknowingly choose less healthy options. Front-of-pack nutritional labels (FOPLs) typically provide consumers with reliable information and partially mitigate the effect of PMEs — information that is not necessarily false but is designed to suggest the food is healthier than it truly is—in the package. However, PMEs might divert consumer attention from FOPLs and lead them to misinterpret the product healthiness from time to time. Building on persuasion knowledge model, our research shows that a disclosure of the manipulative intent of PMEs' present in the front-of-pack is necessary, despite the presence of FOPLs, to support consumers in recognizing company's lying intention. In turn, consumers will spread more negative word-of-mouth (WOM) of the company. Moreover, we report that consumers recognize the company's lying intention only when the disclosure highlights high-salience manipulation intent. In contrast, even in the presence of a FOPL, individuals may not recognize companies' lying intentions in case of low-salience manipulation intent.

Introduction: Despite the increased awareness of the risks, the prevalence of overweight and obesity has risen significantly worldwide, with 43% of adults classified as overweight, and 16% living with obesity (WHO, 2024). On the other hand, the prevalent use of PMEs on food packaging, may exacerbate the issue by leading them to unknowingly choose less healthy options (Pérez-Ferrer et al, 2019). Potentially misleading elements, defined as "labeling elements that are not factually false but can lead to unjustified decisions" (Clement et al, 2017), legally and factually highlight the health cues, even though the product as a whole is unhealthy (Pérez-Ferrer et al, 2019). There are multiple PMEs that may lead consumers to misinterpret the food healthiness and therefore influence consumer decisions (de Sousa et al, 2022), such as "palm oil free" and "free from genetically modified organism" (Hartmann et al, 2018).

The use of FOPLs (WHO, 2024) have been demonstrated to be an effective solution to mitigate PMEs. FOPLs are generally considered as more trustful and useful than other sources on food packages (He et al, 2023; Mazzù, et al, 2022; Mazzù et al, 2023). When existed together with PMEs (i.e., nutrient claims), FOPL has a stronger impact on consumers' healthiness perceptions of a product's compared to PMEs (Nobrega et al, 2020;

Schnettler et al, 2019). On the other hand, FOPL has also shown some limitations in resolving PMEs (Mazzù et al, 2024). FOPLs may be less appealing than PMEs (e.g., graphics) in attracting consumer attention (Bone and France, 2001). Particularly, Medina-Molina and Perez-Gonzalez (2021) reported that PMEs (e.g., health claims) exceed the influence of front-of-pack nutritional labels in informing consumers of the product healthiness. Therefore, substantive interventions from policymakers and leading public health organizations are in need to better inform consumers (Gokani, 2024).

Build on persuasion knowledge model (Friestad and Wright, 1994), this research aims to investigate a more radical intervention-the disclosure of message manipulative intent-in affecting consumers' perception of company's lying intention and then, in turn, influence consumers' negative WOM of the company. The following short paper is organized as follows: after an overview of the underlying theoretical frameworks, we discuss our research methodology and then highlight the main implications of our studies.

Persuasion knowledge model and disclosure of manipulative intent

Persuasion knowledge model (Friestad and Wright, 1994) explains how consumers develop their capabilities of recognizing marketers' persuasion attempts and execute their own coping strategies, such as ignoring or discounting these persuasion tactics. Previous studies have suggested that the activation of persuasion knowledge is more likely to occur when the manipulative intent is highly salient (Wentzel et al, 2010) and consumers possess the knowledge to infer such intent (Madrigal et al, 2024). For example, when manipulative intent from narrative ads is more salient, consumers show less favorable attitudes toward the advertisement because the manipulative intent becomes easier to be recognized (Wentzel et al, 2010). Meanwhile, when exposed to the same advertisement, consumers who perceive it as less manipulative have a more favorable attitude, whereas who perceive it as more manipulative respond less favorably (Cotte et al, 2005). Surprisingly, the literature has not extensively examined the joint consideration of manipulative intent salience and the communication of the corresponding knowledge (Madrigal et al, 2024).

In response, we test two types of disclosure information to facilitate consumer comprehension of food sellers' tactics, including the disclosure of high-salience and low-salience manipulative intent. In the high-salience condition, consumers are informed that the company is actively misleading them (e.g., "These companies use misleading information to falsely present…"), together with the corresponding knowledge. In contrast, in the low-salience condition, consumers are only informed that there is a potential for being

misled (e.g., “It’s important to stay vigilant…”), with the same knowledge. Since PMEs is often ambiguous—crafted to suggest that a product is healthier than it truly is without being entirely false (Clement et al, 2017)—individuals may recognize companies’ lying intention when the disclosure emphasizes high-salience manipulative intent, while they may underestimate the lying intentions of companies when manipulative intent is of low-salience.

When lying intention from marketers is recognized, consumers respond with negative thoughts and attitudes toward the deceptive source (Darke and Ritchie, 2007; Giorgino and Mazzù, 2024). Moreover, Wilkins et al (2016) pointed out that when consumers have bought the products and find out the deception behavior from the company, they take post-purchase actions such as switching the brand and telling friends to avoid the products. We therefore predict that the increased perceived lying intention from the company will lead consumers to spread negative WOM of the company. Therefore, we hypothesize:

H1: A disclosure of high-salience manipulative intent (compared to no disclosure) of products’ PMEs leads consumers to infer a significantly higher lying intention by the food company, in turn, leading to a higher level of negative WOM of the company.

H2: A disclosure of low-salience manipulative intent (compared to no disclosure) of products’ PMEs does not lead consumers to infer a significantly higher lying intention.

Methods and Materials

Study Population: We conducted an online experiment through Prolific. We collected 256 participants (Mage = 28.79, SD=8.48; 50.4% female) from European Union countries.

Research design: Respondents were informed that the study is about packaged food and engaged in an evaluation task after been randomly assigned to one of the three conditions: (i) control condition with product that is attached with FOPL and PMEs; (ii) product together with low-salience manipulative intent disclosure of PMEs; and (iii) product together with high-salience manipulative intent disclosure of PMEs. Through a set of pre-validated scales, we then collected their responses on the perceived lying intention of the package and on their willingness to spread negative WOM of the company.

Analysis: we employed simple mediation test with manipulative intent disclosure as independent variable, perceived company’s lying intention as mediator, and consumer negative WOM as dependent variable.

Results: The descriptive results show the perceived company's lying intention when exposed to control condition ($M_{Control}$=4.21, $SD_{Control}$=1.45); high-salience condition ($M_{high-salience}$=5.00, $SD_{high-salience}$=1.52), and low-salience condition ($M_{low-salience}$=4.60, $SD_{low-salience}$=1.45). A mediation analysis confirms H1 and H2. The results show that under high-salience manipulative intent disclosure, consumers perceive a higher lying intention compared to the control group (b = 0.79, t = 3.48; p < 0.01); under low-salience disclosure, there is no significant increase in perceived lying intention compared to the control (b = 0.38, t = 1.70; p = 0.09). The increased perceived lying intention increases consumers' negative WOM (b = 0.16, t = 2.80, p < 0.01). Specifically, the indirect positive effect of high-salience manipulative intent disclosure on negative WOM—through perceived lying intention—is statistically significant (b = 0.13, [SE] = 0.07; [CI] = 0.02, 0.29). However, the indirect effect of low-salience disclosure is not statistically significant (b = 0.06, [SE] = 0.05; [CI] = -0.01, 0.18).

Conclusion: The prevalence of PMEs on food packaging can prevent consumers from capturing accurate food information and may lead them to unknowingly purchase less healthy options. While FOPLs have been acknowledged as an effective tool for providing consumers with reliable indicators of a food's healthiness, their sole presence has proven to be partly ineffective in limiting unhealthy choices. This research proposes a potential solution, highlighting that the intentional disclosure –by policymakers, for example–of the manipulative intent behind PMEs could be included as part of their communication. More specifically, our research report that high-salience manipulative intent disclosure of the PMEs can improve consumer perceived company's lying intention, and in turn, lead them to spread more negative WOM of the company.

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