COMMUNICATION

Feasting on Advertisements: Investigating the Influence of Different Food Advertisements on TikTok

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Abstrak

Penelitian ini menginvestigasi bagaimana jenis iklan yang berbeda di TikTok (konsumsi vs. berbasis produk) dan jenis makanan yang berbeda (makanan sehat vs. makanan tidak sehat) mempengaruhi norma sosial, sikap, dan niat berperilaku orang dewasa muda. Pemahaman yang lebih komprehensif tentang topik ini sangat penting karena kekhawatiran mengenai peningkatan konsumsi makanan tidak sehat oleh orang dewasa muda. Kekhawatiran ini dapat dikaitkan dengan paparan iklan makanan tidak sehat yang sering terjadi di platform media sosial seperti TikTok. Desain survei within-subject melalui Google Forms digunakan untuk menilai dampak variabel yang dimanipulasi (jenis makanan dan jenis iklan) terhadap variabel lainnya (norma sosial, sikap, dan niat berperilaku). Hasilnya menunjukkan bahwa jenis iklan memiliki dampak positif terhadap sikap. Sebaliknya, jenis iklan tidak berpengaruh signifikan terhadap variabel norma sosial dan niat berperilaku. Namun, efek gabungan dari jenis iklan dan jenis makanan memiliki efek positif pada niat berperilaku. Secara khusus, iklan konsumtif untuk makanan tidak sehat menunjukkan efek positif pada niat berperilaku. Selain itu, sikap positif terhadap iklan makanan juga sangat terkait dengan niat berperilaku yang lebih tinggi. Temuan penelitian ini menunjukkan perlunya penelitian lebih lanjut karena hubungan yang kompleks antara jenis iklan, jenis makanan, sikap, norma sosial, dan niat berperilaku, serta pengaruh faktor-faktor berpengaruh lainnya.

Kata kunci: *Sikap, niat perilaku, iklan makanan, norma sosial dan TikTok*

Abstract

This study investigates how different types of advertisements on TikTok (consumptive vs. product-based) and different types of food (healthy vs. unhealthy food) influence the social norms, attitudes, and behavioral intentions of young adults. A more comprehensive understanding of this topic is essential due to the concerns regarding young adults' increased consumption of unhealthy foods. This concern can be attributed to the frequent exposure to unhealthy food advertisements on social media platforms such as TikTok. A within-subject survey design through Google Forms was utilized to assess the impact of the manipulated variables (type of food and type of advertisement) on the other variables (social norms, attitudes, and behavioral intentions). The results showed that the type of advertisement had a positive impact on attitudes. In contrast, the type of advertisement did not significantly affect the variables of social norms and behavioral intentions. However, the combined effect of the type of advertisement and the type of food had a positive effect on behavioral intentions. Specifically, consumptive advertisements for unhealthy food showed a positive effect on behavioral intentions. Moreover, a positive attitude towards food advertisements was also strongly associated with higher behavioral intentions. The study's findings indicate the need for further research due to the complex relationships between advertisement types, types of food, attitudes, social norms, and behavioral intentions, as well as the influence of other influential factors.

Keywords: *Attitude, behavioral intention, food advertisements, social norms and TikTok*

INTRODUCTION

Companies' advertising of unhealthy foods is a nowadays threat with serious consequences for public health (Boyland et al., 2016; Kumar, 2012). Exposure to unhealthy advertisements can lead to

increased consumption of unhealthy nutrients (high in calories, fat, and sugar). A high consumption of unhealthy foods can potentially cause diabetes, several cardiovascular diseases, obesity, and mental disorders (Dixon et al., 2007; Jia et al., 2022; Kumar, 2012). In contrast, carbohydrates, proteins, minerals, and vitamins are considered as healthy nutrients. These essential and healthy nutrients can help prevent obesity (Mayo, 2023).

It is notable that approximately 70% of food advertisements on social media are for unhealthy foods (Bragg et al., 2020). Social media platforms are becoming increasingly popular among young adults, and food advertisements are prevalent on these platforms. One of the fastest-growing social media platforms is TikTok, which has around three million active users in the Netherlands (Nederpel, 2022). TikTok is known for its short and captivating video content, and its algorithm customizes advertisements based on user's interests and preferences, making it an ideal platform for food companies to target young adults with food advertisements (Verkade, 2022). Despite various efforts towards promoting the intake of healthy food items and increasing health awareness amongst individuals, the data from the CBS of the Netherlands shows that people continue to consume unhealthy food items (CBS, 2021; Glanz et al., 2012). It states that 37% are

moderately overweight and 14% are seriously overweight (CBS, 2021). One reason for this preference is that unhealthy food advertisements tend to receive more attention than healthy advertisements due to their eye-catching visuals that trigger positive emotions like pleasure and socialization (Molenaar et al., 2021). Besides that, unhealthy food advertisements can activate the reward center of the brain and raise both serotine and dopamine levels (Gearhardt, 2011a). This is because people are unconsciously learned to link foods with certain rewards and emotions through a process known as classical conditioning (Bruce et al., 2016; Pavlov, 1927).

Classical conditioning is a type of learning that happens unconsciously. With classical conditioning, an individual learns to associate an unconditioned stimulus with a conditioned stimulus. This, in turn, results in a conditioned response (Pavlov, 1927). In the context of food advertisements, the food itself is an unconditioned stimulus, whereas the auditory or visual cues used in the advertisement are conditioned stimuli. People could associate (un)healthy foods with positive emotions and rewards through constant exposure to conditioned stimuli. The association between these stimuli can cause physiological reactions such as hunger, changes in brain activity, and food desires (Bruce et al., 2016; Burger et al., 2011). Watching food advertisements can stimulate

brain reward-related regions and increase the desire for food displayed, even in the absence of hunger. For that reason, food advertisements can use classical conditioning as a tool to increase the likelihood of individuals choosing and consuming advertised food items. In addition to classical conditioning, food advertisements often use other communication techniques to influence individuals' behavior. Two commonly used techniques are priming and social proof. Priming is an advertising technique that unconsciously influences a person's attitudes, emotions, or behaviors. It involves using visual or auditory cues to activate a specific thought or emotion, such as displaying images of appetizing food or sounds of people enjoying eating(Harris, Bargh, et al., 2009). Social proof, on the other hand, relies on using the behavior or opinions of others to influence an individual's behavior, such as featuring individuals who endorse a particular food product. Using communication techniques that convey social norms in food advertisements can be effective as people tend to engage in socially acceptable behavior (Cialdini et al., 1991).

Social norms are unwritten guidelines or expectations that give direction to behavior within society. Cialdini et al., (1991) distinguish two different social norms: descriptive norms and injunctive

norms. Descriptive norms reflect commonly observed behavior in a particular social group or society, whereas injunctive norms reflect the perceived expectations or rules for what is considered acceptable behavior. Food advertisements that highlight the product's popularity (descriptive norm) or display a well-known person enjoying the food (injunctive norm) are more likely to be effective. This is because people frequently associate these advertisements with social acceptance and desirability (Higgs & Thomas, 2016). As a result, social norms can influence the perceptions of individuals of what food choices are appropriate or healthy (Delormier et al., 2009). Visual cues are an effective tool for conveying social norms in food advertising. According to research, visual cues can activate social norms more strongly than other types of cues, such as verbal messages or written text (Cialdini & Goldstein, 2004). Advertisements featuring people eating food, also known as consumptive advertisements, tend to be effective at triggering social norms (Harris, Brownell, et al., 2009; Poor et al., 2013a). Consumptive advertisements shape viewers' perceptions of socially acceptable or desirable behavior, which can lead to increased behavioral intentions toward the advertised food product (Griskevicius et al., 2009). For that reason, it is expected that *a consumptive advertisement activates the social norm more than a product*

advertisement (Hypothesis 1), and that a stronger activation of the social norm leads to a greater effect of the food advertisement on behavioral intentions (Hypothesis 2). Besides that*, it explains* why *consumptive advertisements are more likely to trigger higher behavioral intentions of the displayed food for unhealthy food advertisements than for healthy food advertisements (Hypothesis 3),*

Social norms can also influence the behavioral intentions of healthy food products. People are more likely to consume and purchase healthy food products when they believe that healthy eating is the social norm (Higgs, 2015). Reinforcing social norms for healthy eating can create the impression that making healthy food choices is desirable and socially acceptable (Brewer et al., 2016; Higgs, 2015). Therefore, it is also expected that a *consumptive advertisement for healthy food can activate a health goal in the consumer, which could increase the behavioral intention of a healthy food product too (Hypothesis 4).*

The advertising landscape is constantly changing, with modern techniques like advertising on social media platforms (Facebook, Instagram, and TikTok) replacing traditional media channels (television, magazines, and radio) (Qutteina et al., 2019). Online advertising offers several benefits over traditional advertising. Online advertising is more cost-effective,

and it can be tailored (based on people's browsing history, search queries, and other online activities) to the individual. Other advantages of using online advertising include the possibility of engaging with (potential) customers and obtaining precise metrics on the advertisement's effectiveness. These advantages increase the likelihood of people engaging with the advertisement (Appel et al., 2020; Dwivedi et al., 2021). People's engagement with online advertisements can lead to stronger attraction and commitment to a product or brand, ultimately influencing their behavioral intentions (Kenan, 2022; Zhao et al., 2022). Furthermore, it is notable that the designs of advertisements for unhealthy and healthy foods differ from each other (Roose & Mulier, 2020a). According to Harris et al. (2009), advertisements promoting unhealthy foods tend to use emotional appeals and visually striking imagery to trigger positive emotions and create a strong desire for the food product. On the other hand, advertisements for healthy foods are usually focused on educational messaging, emphasizing the product's health benefits. This may include information on its nutritional value, impact on health, and contribution to a healthy lifestyle (Romana Puggelli & Bertolotti, 2014). Information-based messaging used in healthy food advertisements is more effective in promoting long-term behavior change, while

the emotional approach often used in unhealthy food advertisements is more effective in generating short-term sales (Roose & Mulier, 2020b).

It is notable that people tend to pay more attention to advertainments for unhealthy foods than to healthy foods. This is because unhealthy foods are often associated with indulgence and pleasure, whereas healthy foods are associated with self-control and discipline (Molenaar et al., 2021b). Furthermore, the emotional appeal of unhealthy food advertisements can cause the brain to release serotonin, which can lead to a positive association with the (food) product (Volkow et al., 2017). For the above reasons, *advertisements of unhealthy foods are more likely to trigger a positive attitude than advertisements of healthy foods (Hypothesis 5) and that consumptive advertisements of unhealthy food will lead to a more positive attitude than a consumptive advertisement of healthy food (Hypothesis 6).*

Young adults have the capacity to critically analyze food advertisements and are usually aware that companies are trying to persuade them. However, young adults are still getting influenced by advertisements' emotional appeals, social norms, and cognitive messages (Folkvord et al., 2020). The Elaboration Likelihood Model (ELM) and the Reflective-Impulsive Model (RIM) are two frameworks that explain how people

process persuasive messages and make decisions (Petty & Cacioppo, 1986; Strack & Deutsch, 2004). The ELM developed by Petty & Cacioppo, (1986), serves as a framework to describe how people process persuasive messages and make choices based on their involvement and motivation. The model distinguishes between two routes for information processing: the central and peripheral routes. The central route involves thoughtful consideration of the message and a rational decision-making process that requires effort and motivation. Messages are more likely to be processed through the central route when a person is motivated and considers the topic relevant and important. In contrast to the central route, the peripheral route involves individuals relying on noncontent-related cues when processing information. The RIM model considers short- and long-term goals and differentiates between two systems that influence decision-making: the reflective and impulsive systems. The reflective system helps people make rational decisions, but it requires more mental effort and is typically used when people have time or when the decision is important. The reflective system is associated with long-term goals. On the other hand, the impulsive system makes decisions based on associations, motivations, and short-term goals. The reflective system activates a quick and automatic response to stimuli (Strack & Deutsch, 2004).

The RIM and ELM are frameworks that describe how people process information from persuasive advertisements, suggesting that persuasion is a complex process that involves cognitive and emotional factors. However, one significant difference between RIM and ELM is that RIM proposes two cognitive systems that work together to affect behavior, while ELM suggests that people use different processing routes when evaluating persuasive messages, based on their motivation and ability to think critically about the message (Petty & Cacioppo, 1986; Strack & Deutsch, 2004).

The Theory of Planned Behavior (TPB) is a useful tool to understand human behavior in the context of food advertising (Ajzen & Fishbein, 1977; Chen, 2017). It explains how attitudes, social norms, and perceived behavioral control can influence human behavior (Ajzen & Fishbein, 1977). According to their research, the TPB describes the component attitude as a person's likelihood to engage in a specific behavior. This likelihood is determined by their positive or negative attitude toward the advertisement. Social norms refer to the perceived social pressure to engage or not engage in certain activities. People are more likely to endorse and purchase a (food) product that aligns with their social norms or is considered acceptable. Lastly, perceived behavioral control relates to an individual's ability to engage in a particular behavior. It is determined by their skills, resources, and situational constraints. In conclusion, it is evident from the TPB that external stimuli, such as food advertisements, can increase behavioral intentions among young adults by influencing their attitudes and social norms (Ajzen & Fishbein, 1977). For that reason, *it is expected that a positive attitude towards a food advertisement leads to a greater behavioral intention (Hypothesis 7).*

The Health Belief Model (HBM) is a theoretical framework that examines people's beliefs and attitudes to explain and predict how they will behave regarding their health(Becker, 1974; Glantz et al., 2008). The HBM distinguishes different factors that could influence an individual's motivation to adopt healthy eating behaviors. These factors are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Understanding people's attitudes and beliefs about these factors can explain why individuals engage in certain health-related behavior.

It is well-established in research that there is a relationship between different types of advertisements, social norms, attitude and behavioral intentions. However, given the rapid growth of digital technologies, traditional advertising and some social media paradigms might no longer be adequate to truly understand how food advertisements affect young adults in

modern society. It is likely that the conclusions from earlier studies, such as Page & Brewster, (2009) and Smith et al., (2019), do not apply to young adults who use TikTok. While earlier studies have primarily focused on food advertisements in traditional media targeting children, TikTok has become increasingly popular among young adults, emphasizing the need for more research on this social media platform. Also, there is limited knowledge about the effects of different types of food advertisements (consumptive vs. product-based and healthy vs. unhealthy) on TikTok and how they impact young adults. All these knowledge gaps in earlier research highlight the need for further research. This research focuses on a relevant issue in today's society and makes a valuable contribution to the field of communication science. This knowledge could potentially be utilized to develop communication strategies and interventions to decrease diet-related health problems in the future. Finally, this study seeks to strengthen previous research findings and close knowledge gaps about the impact of different types of food advertisements on individuals' attitudes, social norms, and behavioral intentions in the modern media landscape.

METHODOLOGY

This quantitative research study used an online survey to collect data. The study used an experimental design (within-subjects approach) to manipulate the independent variables (type of advertisement and type of food) and assess their impact on the outcome variables. Additionally, the type of advertisement served as the moderator. The two mediators in this research are attitude and social norm, and behavioral intention is the dependent variable. The study also aimed to measure motivation, as it is known to have a positive association with healthy food intake. Including the variable motivation can provide valuable insights into the role of motivation in people's choosing healthy foods over unhealthy foods.

The study population were TikTok users in the Netherlands aged 18–25, estimated to be 1,000,000. The sample size consisted of 121 individuals, collected through non-probability sampling techniques (convenience and snowball sampling) via Facebook Groups, Instagram, and WhatsApp. The researcher posted a call-to-action message on these platforms, inviting participants to take part in the study.

The survey was conducted through Google Forms. Upon opening the survey, participants were informed that they were taking part in a study on the influence of TikTok advertisements on their dietary behavior. Subsequently, demographic questions were asked. After collecting demographic data, the participants were asked about their recent food consumption and level of hunger. This information is relevant because hunger can

increase the sensitivity of food-related advertisements and the drive to satisfy hunger, resulting in a higher behavioral intention to purchase food. After that, the participants were shown all four conditions of the experiment (see Table 1). After viewing the food advertisements, their perceived social norms were assessed, followed by their attitudes based on the research of Ajzen & Fishbein, 1977). Finally, their behavioral intention and motivation were measured. At the end of the experiment, the participants were thanked for their participation.

The data was analyzed through the mediation analysis macro-PROCESS of F. Hayes in SPSS. This analysis measured the relationship between types of advertisements, types of food, attitudes, social norms, and behavioral intentions. To ensure validity, the survey's reliability was tested using Cronbach's alpha. The scale for social norms had a high reliability ($\alpha = .911$), the scale for attitude also demonstrated high reliability ($\alpha = .964$), and the scale for behavioral intention displayed an internal consistency of ($\alpha = .898$). Also, the scale for motivation showed acceptable reliability ($\alpha = .770$) with five items.

Table 1 Experimental conditions for a within-subjects design

	Type of food	Type of advertisement
Condition 1	Healthy	Consumptive advertisement
Condition 2	Healthy	Product-based advertisement
Condition 3	Unhealthy	Consumptive advertisement
Condition 4	Unhealthy	Product-based advertisement

RESULT

To test whether there is an effect of type of advertisement (consumptive vs. product-based) and type of food (healthy vs. unhealthy) on the social norm, attitude, and behavioral intention, a mediation analysis was performed using macro-PROCESS by F. Hayes in SPSS The mediation analysis was performed with "type food" as a predictor, "attitude" and "social norm" as mediators, "type ad" as a moderator, and "behavioral intention" as the dependent variable.

Social Norm

Hypothesis 1 states that a consumptive advertisement activates the social norm more than a product-based advertisement. However, the result of this analysis revealed that there is no support for Hypothesis 1. The type of advertisement (consumptive vs. product-based) does not have a significant effect on the activation of the social norm. The regression coefficient for the type of advertisement variable is -1.0744 (SE = 1.7831), which has a t-value of -0.6025 (p = 0.5471). These results indicate that there is no statistically significant difference in the activation of the social norm

based on the type of advertisement, contradicting Hypothesis 1.

Table 2. Mean and Standard Deviation by Condition for Social Norm

Condition	Mean	Std. Deviation
Unhealthy and consumptive advertisement	19.3967	6.60111
Unhealthy and product-based advertisement	19.2645	5.11333
Healthy and consumptive advertisement	18.6529	7.12941
Healthy and product-based advertisement	19.4628	5.77356

Attitude

Hypothesis 5 states that advertisements for unhealthy food trigger a more positive attitude than advertisements for healthy food. However, the result of this analysis revealed that there is no support for Hypothesis 5. The type of food advertisement (unhealthy vs. healthy) does not have a significant effect on attitude. The regression coefficient for the type of food advertisement variable is 0.0413 (SE = 2.6334), with a t-value of 0.0157 (p = 0.9875). These results suggest that there is no statistically significant difference in attitude between advertisements for unhealthy and healthy food.

Hypothesis 6 proposes that consumptive advertisements of unhealthy food lead to a more positive attitude than consumptive advertisements of healthy food. However, the result of this analysis revealed that there is no support for hypothesis 6 either.

The interaction effect between the type of food advertisement and the type of advertisement (consumptive vs. product-based) on attitude is not significant. The regression coefficient for the interaction term is -0.3058 (SE = 1.6655), which has a t-value of -0.1836 (p = 0.8544). This shows that there is no statistically significant difference in attitude between consumptive advertisements of unhealthy and healthy food. However, the coefficient for the type of advertisement variable is 7.5041 (SE = 2.6334), with a t-value of 2.8496 (p = 0.0046). These results indicate that there is a statistically significant effect of the type of advertisement on attitude. The mean values in Table 3 suggest that both unhealthy and healthy product-based advertisements have relatively higher attitudes compared to the mean attitudes for consumptive advertisements.

Table 3. Mean and Standard Deviation by Condition for Attitude

Condition	Mean	Std. Deviation
Unhealthy and consumptive advertisement	22.6281	10.03920
Unhealthy and product-based advertisement	29.8264	8.72609
Healthy and consumptive advertisement	22.3636	9.47980
Healthy and product-based advertisement	29.2562	8.29712

Behavioral Intention

Hypothesis 2 states that a stronger activation of the social norm leads to a greater effect of the advertisement on behavioral intentions. The analysis indicates that the social norm variable has a regression coefficient of 0.0595 (SE = 0.0332) and have a t-value of 1.7897 (p = 0.0741). This indicates that the effect of the social norm on behavioral intentions is not statistically significant. For that reason, Hypothesis 2 cannot be supported.

Hypothesis 4 proposes that consumptive advertisements lead to higher behavioral intentions for both healthy and unhealthy foods than product-based advertisements. The analysis does not reveal a significant effect of the type of ad on behavioral intention. The regression coefficient for type of ad is -1.1057 (SE = 0.8838), which has a t-value of -1.2511 (p = 0.2115). The results suggest that there is no significant difference in behavioral intentions between consumptive and product-based advertisements, thus not supporting Hypothesis 4. In fact, product-based advertisements have a higher mean than consumptive advertisements for both healthy and unhealthy food on behavioral intentions.

Hypothesis 3 suggests that consumptive advertisements lead to higher behavioral intentions of the displayed food product for unhealthy product advertisements than for healthy advertisements. The analysis shows a significant interaction effect between the type of food and the type of ad on behavioral intention (1.4735 SE = 0.5461, 2.6981 p = 0.0072). This finding provides support for Hypothesis 3, indicating that consumptive advertisements have a stronger impact on behavioral intentions for unhealthy product advertisements compared to healthy advertisements.

Lastly, Hypothesis 7 proposes that a positive attitude towards a food advertisement leads to a greater behavioural intention. The analysis indicates that attitude is a significant predictor of behavioural intention. The regression coefficient for attitude is 0.3805 (SE = 0.0225), with a t-value of 16.9087 (p < 0.0000). These results strongly support Hypothesis 7, suggesting that a positive attitude towards a food advertisement is associated with a higher behavioural intention related to the advertised food product.

Table 4. Mean and standard deviation by condition for behavioural intention

Condition	Mean	Std. Deviation
Unhealthy and consumptive advertisement	10.6446	5.25652
Unhealthy and product-based advertisement	13.7438	4.99921
Healthy and consumptive advertisement	8.7769	3.86542

Healthy and product-based advertisement	13.2893	5.00573

Direct and Indirect Effects

There is a direct negative effect of the type of advertisement on behavioral intentions. This effect is significant for "type of advertisement = consumptive" (Effect = -1.7229, SE = 0.3859, t = -4.4652, p = 0.0000). However, this is not significant for "type of ad = product-based" (Effect = -0.2493, SE = 0.3857, t = -0.6464, p = 0.5183). These findings suggest that when an advertisement is consumptive, it is likely to have a significant negative effect on behavioral intentions.

The indirect effect of attitude as a mediator on behavioral intentions is not significant. However, the indirect effect of type of food=healthy on "behavioral intention" through "social norm" is statistically significant. This indicates that the influence of healthy food on behavioral intentions is partially mediated by social norms. The effect size is 0.0118 (SE = 0.0470), which has a 95% bootstrapped confidence interval between 0.0790 and 0.1186.

Motivation

To examine the direct relationship between motivation for healthy eating and behavioral intention, a correlation analysis was conducted.

The correlation coefficient of 0.245 revealed that there is a positive and moderate correlation between motivation and behavioral

intentions in condition 3 (healthy and consumptive). This correlation is statistically significant (p = 0.007). Similarly, a positive and moderate correlation (correlation coefficient of 0.215) was found between motivation and behavioral intentions in condition 4 (healthy vs. product-based). This correlation is statistically significant (p = 0.018). These findings suggest that there is a significant connection between motivation and behavioral intention for healthy eating in the contexts of conditions 3 and 4. However, the relationships with conditions 1 and 2 (both conditions displayed unhealthy foods) were not statistically significant.

DISCUSSION

The findings of the result chapter provide valuable insights into the relationships between different types of advertising, social norms, attitudes, and behavioral intentions.

Impact on Social Norms

Firstly, the results indicated that the type of advertisement (consumptive vs. product-based advertisements) does not significantly impact the activation of the social norm. This finding contradicts Hypothesis 1, which posits that a consumptive advertisement would activate the social norm more than a product-based advertisement. This also challenges previous research that suggested

that consumptive advertisements can influence consumer behavior by exposing individuals to other people's goals and norms.

An explanation for the finding that consumptive advertisements do not lead to a higher activation of social norms compared to product-based advertisements could be that consumptive advertisements do not align with personal relevance. The activation of social norms through advertisements can depend on the individual's personal relevance and identification with the depicted behaviors or values (de Groot et al., 2021; Petty & Cacioppo, 1986). When individuals perceive personal relevance and alignment with the depicted consumption behaviors or values in an advertisement, their activation of social and personal norms is likely to be higher (Falk et al., 2010).

Furthermore, social norms play an important role in shaping behavior, but they are not the sole determinant. Other factors such as personal values, self-efficacy, situational cues, and personal relevance also have significant influences on behavior (de Groot et al., 2021; Miller & Prentice, 2016). Therefore, the limited influence of the type of advertisement on social norm activation may be attributed to the complex interplay of various factors. This also explains the non-acceptance of Hypothesis 2, which assumes a stronger activation of social norms leads to a greater effect of the advertisement on behavioral intentions.

Impact on Attitudes

Secondly, there is a lack of support for Hypothesis 5 and Hypothesis 6, which suggested that advertisements of unhealthy food and consumptive advertisements of unhealthy food would lead to more positive attitudes. These hypotheses were based on several studies about food advertising. Coates et al., (2019) and Dixon et al., (2020) suggested that unhealthy food advertisements were more effective than healthy food advertisements in influencing attitudes and behavioral intentions. Despite the lack of support for Hypotheses 5 and 6, the analysis of the attitude variable indicates that the overall model significantly predicts attitude. This suggests that other factors beyond the type of food, such as motivation and the cues of different types of advertisements (different types of advertisements predict attitude in this research), influence attitudes.

Motivation plays a crucial role in shaping individuals' attitudes and behavioral intentions towards food choices. The Elaboration Likelihood Model (ELM) emphasizes the significance of motivation in information processing. In line with the ELM, research has shown a positive relationship between motivation for a healthy lifestyle and healthy food intake (Verstuyf et al., 2012). For example, individuals with a higher level of motivation for healthy eating have a more favorable attitude toward healthy food (Steptoe et al., 1995). They are also more likely to have less favorable attitudes towards

unhealthy food advertisements. This is because these individuals have an increased awareness of the potential negative health effects associated with unhealthy food consumption (Scalvedi et al., 2021).

Impact on Behavioral Intentions

Thirdly, the findings in this research suggest that when the type of advertisement is consumptive, it has a significant negative effect on behavioral intentions. For that reason, there is a lack of support for Hypothesis 4, which suggests that consumptive advertisements do not lead to higher behavioral intentions than product-based advertisements. One potential explanation for the lack of support for Hypothesis 4 is that the effectiveness of advertisements in influencing behavioral intentions can vary depending on individual differences, such as personal relevance and motivations (Falk et al., 2010; Friestad & Wright, 1994; Webb & Mohr, 1998). Individuals may have different receptiveness to consumptive advertisements based on their relevance, motivation, and values. The connection between the message conveyed in the advertisement and the individual's own goals, values, and relevance are important factors in determining its persuasive impact (Petty & Cacioppo, 1986). Furthermore, it is worth noting that product-based advertisements could potentially trigger higher cravings and lead to higher behavioral intentions. In the context of this study, the product-based advertisements could have presented the advertised food in a more appealing and desirable way. This could cause an increase in their cravings and behavioral intentions (Gearhardt, 2011b).

Even though Hypothesis 4 is not supported, this research supports Hypothesis 3. Hypothesis 3 suggests that consumptive advertisements would lead to higher behavioral intentions for unhealthy food than for healthy food. Even though there is more awareness of the importance of healthy food, individuals' immediate desires for indulgence and pleasure could still have a strong influence on their behavioral intentions (Cornil & Chandon, 2016). The sensory cues presented in consumptive advertisements of unhealthy food can activate these indulgent desires, leading to higher behavioral intentions for unhealthy food compared to healthy food (Forwood et al., 2015; Poor et al., 2013b).

Finally, the analysis provided strong support for Hypothesis 7, which stated that a positive attitude towards a food advertisement would lead to a greater behavioral intention. The results of this research showed a significant positive relationship between attitude and behavioral intentions. This finding is in line with previous research, which suggested that positive attitudes towards an advertisement can increase the likelihood of behavioral intentions (Ajzen & Fishbein, 1977; Petty & Cacioppo, 1986)

Future Research Implications and Research Limitations

A limitation of this study is its focus on a specific set of factors (type of advertisement, type of food, social norm, and attitude) that influence behavioral intentions. This leaves out other potentially relevant influences on the effect of food advertisements. For instance, prior research by de Groot et al., (2021) and Petty & Cacioppo, (1986) shows that personal relevance plays a role in activating social norms and the level of motivation. This suggests the importance of future studies to explore whether the personal relevance for behaviors depicted in food advertisements mediates the relationship between social norms and individuals' behavioral intentions. Examining the mediating role of personal relevance can contribute to a more comprehensive understanding of how social norms influence behavioral intentions in response to food advertisements. Besides that, motivation is known as an important factor in influencing a healthy lifestyle (Verstuyf et al., 2012). For that reason, it is also relevant to research the relationships between types of advertisements, types of food, attitudes, behavioral intentions, and motivation for healthy eating. To gain a comprehensive understanding, it would be valuable to investigate how a broader range of motivational factors interact with the different types of food advertisements. In future research, participants can be exposed to manipulated conditions (healthy vs. unhealthy and consumptive vs. product-based), and their motivation for healthy eating can be measured

in relation to the specific conditions they view. This approach would provide deeper insights into how individuals with different levels of motivation respond to the manipulated conditions. Additionally, it would be interesting to understand the effect of personal relevance on motivation since it is evident from the ELM that personal relevance plays a role in influencing the level of motivation (Petty & Cacioppo, 1986).

Furthermore, the study's findings are limited using convenience and snowball sampling methods, the possibility of bias in the attractiveness of the advertisements, and the small sample size. Future research should utilize more representative sampling methods, standardized advertisements, and a larger sample size to address these limitations.

CONCLUSION

The goal of this study to explore how different types of advertisements (consumptive vs. product-based) and different types of food (healthy vs. unhealthy) impact social norms, attitudes, and behavioral intentions. The findings of this research have provided valuable information and exposed its complexities.

Firstly, the analysis shows that the type of advertisement (consumptive vs. product-based) does have a significant effect on attitudes. This research indicates that product-based advertisements generate a more favorable attitude than consumptive advertisements. However, the research's outcomes reveal no significant correlation

between advertisement type (product-based vs. consumptive) and the variables social norms and behavioral intentions. Secondly, the findings show that the type of food (healthy vs. unhealthy) has a negative influence on behavioral intentions. Exposure to different types of food tends to decrease individuals' behavioral intentions. The type of food, however, did not significantly impact the variables of social norms and attitudes.

Additionally, there was a significant positive effect of the type of food combined with the type of advertisement on the variable behavioral intention. Specifically, consumptive advertisements had a stronger impact on behavioral intentions for unhealthy food compared to healthy food. This suggests that the combination of the type of advertisement and the type of food could influence behavioral intentions. Attitude is another predictor of behavioral intentions. This indicates that a positive attitude towards food products is a key factor in shaping behavioral intentions. On the other hand, social norms do not a significant influence behavioral intention.

In conclusion, the study highlights the important role of attitude as a predictor of behavioral intentions. This shows that communication strategies and interventions should focus on increasing positive attitudes towards their advertised food products among individuals. Focusing on positive attitudes will increase the likelihood of consumers engaging with these food products. This research demonstrates that most of the hypotheses are unsupported. The complexity of the relationships between types of advertisements, types of food, social norms, attitudes, and behavioral intentions is likely the reason for this. The complexity arises from the fact that the relationships between types of advertisements, types of food, social norms, attitudes, and behavioral intentions are influenced by other factors and can differ among individuals. Personal relevance and motivation are examples of these factors, and they play a crucial role in activating social norms and triggering positive attitudes and behavioral intentions. Further research about the factors of personal relevance and motivation could provide researchers with a more comprehensive understanding of the influence of different types of food advertisements and types of food on social norms, attitudes, and behavioral intentions on TikTok.

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