



The influence of Instagrammers' recommendations on healthy food purchase intention: The role of consumer involvement

La influencia de las recomendaciones de los Instagrammers en las intenciones de compra de alimentos saludables: El papel de la implicación del consumidor

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ABSTRACT

This article examines the impact of digital influencers' recommendations, especially Instagrammers, on the purchase intention of healthy food. In addition to the direct influence of source credibility on behavioral intention, the study also examines the influence of self-brand congruence and consumers' involvement with healthy food on purchase intention. To test research hypotheses, a quantitative study was conducted with 221 Portuguese consumers. High and low involvement with healthy food groups were classified by K-Means Clustering, and the analysis of the structure and the measurement models was performed by using Smart-PLS software. The results confirmed that Instagrammers' credibility drives self-brand congruence and purchase intention for healthy food. It was also confirmed that the involvement with healthy food moderates the influence of self-brand congruence and Instagrammers' credibility on consumers' intention to purchase healthy food, and that brand self-congruence partially mediates the influence of Instagrammers' credibility on purchase intention. Overall, this work offers relevant insights for both marketing managers and researchers, as it demonstrates the importance of considering the indirect effects of source credibility on purchase intention of healthy food and of comparing consumers with high and low product involvement to effectively evaluate the impact of digital influencers' in healthy food endorsement.

Keywords: Healthy eating, digital influencers, influencer marketing, consumer involvement, social media, consumer behavior.

RESUMEN

Este artículo examina el impacto de las recomendaciones procedentes de *influencers* digitales, concretamente de los *Instagrammers*, en la intención de compra de alimentos saludables. Además de la influencia directa de la credibilidad de la fuente sobre la conducta, el estudio también examina la influencia de la autocongruencia con la marca y la implicación de los consumidores con la alimentación saludable sobre la intención de compra. Para contrastar un conjunto de hipótesis de investigación, se realiza un estudio cuantitativo con 221 consumidores portugueses. La alta y baja implicación con los distintos grupos de alimentos saludables se clasifica mediante *K-Means Clustering*, y el análisis de los modelos estructurales y de medida se realiza mediante el software *Smart-PLS*. Los resultados confirman que la credibilidad de los *Instagrammers* conduce a la autocongruencia con la marca y a la intención de compra de alimentos saludables. También se confirma que la implicación con los alimentos saludables modera la influencia de la autocongruencia con la marca y la credibilidad de los *Instagrammers* en la intención de comprar alimentos saludables, y que la autocongruencia con la marca media parcialmente la influencia de la credibilidad de los *Instagrammers* en la intención de compra. En general, este trabajo ofrece información relevante tanto para los responsables de marketing como para los investigadores, pues demuestra la importancia de considerar los efectos indirectos de la credibilidad de la fuente en la intención de compra de alimentos saludables y de comparar la alta y baja implicación de los consumidores con el producto para evaluar eficazmente el impacto del apoyo de los *influencers* digitales en la alimentación saludable.

Palabras clave: Alimentación saludable, *influencers* digitales, marketing de *influencers*, implicación del consumidor, medios sociales, comportamiento del consumidor.

1. INTRODUCTION

The digital influencer industry grew more than 100% between 2019 and 2021, when its worldwide estimated value reached 13.8 billion U.S. dollars (Statista, 2021b). On Instagram, influencer marketing was worth 1.3 billion US dollars in 2018 and was expected to double by 2020 (Statista, 2021a). Unlike traditional celebrities or public figures, digital influencers are “regular people” who became “online celebrities” by creating and publishing content on social media (Lou & Yuan, 2019). Their content creation and diffusion strategy enables them to be seen as authorities and credible information providers and trendsetters on a certain topic, hence influencing their followers’ behaviors. For instance, an Instagram influencer, henceforward identified as Instagrammer, is an Instagram user with a high number of followers, who has a high taste in topics such as fashion and lifestyle, which enables him/her to monetize his/her posting activity (Jin *et al.*, 2019). According to Statista (2022), in 2020, 47.3 percent of all Instagram influencers were micro-influencers (having between 5,000 and 20,000 followers), while mid-tier (between 20,000 and 100,000) and macro-influencers (between 100,000 and one million) accounted for 26.8 and 6.5 percent, respectively, and only 0.5% of the Instagram influencers had more than one million followers (Statista, 2022).

Digital influencers, including micro-celebrities, influence the behaviors of their followers due to their appeal and connection with their audience, as well as their expertise and perceived authority on a particular topic (Djafarova & Rushworth, 2017; Masuda *et al.*, 2022; Torres *et al.*, 2019).

Schouten *et al.*, (2020) note that micro-celebrities’ endorsements appear to be more inspiring, relatable, and trustworthy than traditional celebrities, and consequently more effective to accomplish marketing objectives. In this context, influencer marketing comprises the identification of key individuals and opinion leaders (Chopra *et al.*, 2021; Lin *et al.*, 2018) who can drive brand awareness and purchasing decisions (Chopra *et al.*, 2021; Lou & Yuan, 2019) within a certain target audience, namely by to promoting the utilitarian and hedonic value of the brand’s offerings (Lin *et al.*, 2018).

The growing importance of influencer marketing has been accompanied by calls for further research on the topic (Dwivedi *et al.*, 2021) to help guide management strategies, namely on Instagram (Djafarova & Rushworth, 2017), and by further exploring source characteristics and their impact on consumer behavior (Djafarova & Rushworth, 2017; Vrontis *et al.*, 2021). In addition, the relationship with the brands advertised needs also to be further considered, namely in terms of congruity between consumers’ values and the advertised brands. As endorsement produces symbols, images, and meanings, which are transferred from the celebrity to the brand, these elements must be aligned with the consumer’s personality (Albert *et al.*, 2017; Pradhan *et al.*, 2016).

This article focuses on healthy food. The health and wellness food market value is expected to grow more than 36% between 2020 and 2026, when it shall to surpass one trillion U.S. dollars (Shahbandeh, 2021). Moreover, despite food being one of the topics most explored by digital influencers, research about digital influencers’ impact on food purchase decisions is still scarce (Calvo-Porrall *et al.*, 2021).

Considering the relevance of the topic and the gaps found in the literature, this work examines the impact of digital influencers, especially Instagrammers, on facilitating the purchase intention of healthy food they recommend. In particular, it seeks to answer whether the credibility of Instagrammers, as recommenders, directly influences and/or mediates the influence of the brand congruence on purchase intention among consumers with high and low involvement with healthy eating.

Overall, this article makes several contributions. Firstly, it contributes to the literature on healthy food, a sector that is growing rapidly but still is insufficiently studied regarding the factors that explain consumer behavior, especially in digital contexts and related to digital influencers. Although the literature on celebrity endorsement is particularly rich, this article explores the combination of endorser characteristics and consumer-brand congruity, which helps uncover the impact of digital influencers’ endorsements of healthy food brands. Secondly, this article demonstrates the relevance of considering mediation effects in analyzing the impact of source credibility on consumer behavior, particularly in purchase intention. As it will be demonstrated along these pages, this may be essential to accurately evaluate influencer marketing efficacy. Thirdly, this article demonstrates the relevance of segmenting consumers according to their high or low involvement with the endorsed product, in this case healthy food. Indeed, this article shows that product involvement is essential to understand not only consumer behavior, but particularly the outcomes of influencer marketing, which is of utmost importance for both managers and researchers interested in influencers’ roles in fostering consumer behaviors, namely regarding healthy food.

The next section presents the most relevant contributions in the literature that guide the development of a set of hypotheses included in a quantitative study that is also included in the following pages.

2. BACKGROUND

2.1. Source credibility and self-brand congruity

Source credibility is pointed out as an essential determinant of the success of digital influencers (Schouten *et al.*, 2020; Vrontis *et al.*, 2021; Zhu *et al.*, 2022), as they are considered experts who share honest (Erdogan, 1999), trustworthy (Hudders *et al.*, 2021), and high quality (Sokolova & Kefi, 2020) information with their followers. Source credibility is a term generally used to refer to the positive characteristics of the sender of a message, which influence the acceptance of the communicated message by the receiver (Ohanian, 1990). As explained by Erdogan (1999), the source credibility model assumes that, whenever the information source is deemed credible, the receivers accept it and internalize the message in terms of beliefs, opinions, attitudes, and behaviors. Ohanian (1990) conceptualized it as a three-dimensional construct, comprising expertise, trustworthiness, and attractiveness.

This article argues that understanding the impact of influencers’ messages on the purchase intentions of their audiences can benefit of the consideration of both the perceived charac-

teristics of the influencer, particularly source credibility, and the characteristics of the audience related to the brand being advertised. As noted by *Zhu et al.*, (2022), self-brand congruity stands out as a possible explanation of the lack of success of some influencer marketing initiatives, as the effectiveness depends on how well the product being advertised fits the influencer and its audience. While several authors explored the congruence between the brand and the influencer (e.g., *Calvo-Porrall et al.*, 2021; *Schouten et al.*, 2020; *Zhu et al.*, 2022), this article focus on the consumers' perspective in terms of self-brand congruity.

Self-brand congruity is pointed out by *Yang and Jiang* (2021) as a relevant still under-researched topic in social media literature, stressing that it is determinant for advertising effectiveness. *Sirgy et al.*, (1997) define self-brand congruity as the perceived match between the brand's attributes and the identity, characteristics, and self-concept of the individual. As explained in detail by *Islam et al.*, (2018), congruity theory postulates that consumers tend to minimize dissonance and to be more inclined to brands that they perceive as consistent with their self-image and their values. As a consequence, brands should adopt communication strategies that help customers identify a high level of self-brand congruity. This can be done by highlighting the values, personality, and overall characteristics that the brand has in common with its target audiences, but also foster interaction across brand-related touchpoints that may reinforce the congruity perceptions (*Islam et al.*, 2018). With this regard, being endorsed by influencers that the target audiences consider as credible sources is one effective way to positively affect self-brand congruity (*Dwivedi et al.*, 2015).

By endorsing certain brands, Instagram celebrities transfer emotional bonds with the brand to their audiences. Celebrities' symbolic meanings are particularly relevant to their followers (*Dwivedi et al.*, 2015) and they tend to be perceived as having high standards in picking their endorsed brands to which emotional attachment and meanings are assigned (*Jin et al.*, 2019; *Schouten et al.*, 2020). The aspirational nature of the connections between influencers and their followers also fosters favorable brand evaluations (*Dwivedi et al.*, 2015) and followers' attachment with the brands being advertised. Influencers' source credibility is therefore an effective trigger of self-brand connections among their followers (*Dwivedi et al.*, 2015). *Li and Peng* (2021) stress that digital influencers foster consumers' self-brand congruity processes, by promoting and displaying the use of the products and services of those brands, namely due to the digital influencers' perceived credibility and trustworthiness. Additionally, consumers create strong positive associations regarding credible sources with which they aspire to identify with. In line with these contributions, it is expected that:

H1 – The Instagrammers' credibility has a positive impact on consumers' self-brand congruity.

2.2. Expected impacts on purchase intention

Since the seminal work by *Ohanian* (1990), source credibility has received continuous attention by scholars studying the impact of celebrities on consumer behavior, including due to the expected impacts on purchase intention. Indeed, the literature argues that the expected positive impact of Instagrammers on

purchase intentions of their advertised brands depends on how credible their followers perceived them (*Djafarova & Rushworth*, 2017; *Schouten et al.*, 2020), especially regarding their trustworthiness and perceived expertise (*Masuda et al.*, 2022). By adopting influencer marketing, brand managers aim to transfer the image of the influencer and his/hers favorable characteristics onto the brand (*Schouten et al.*, 2020), and to achieve positive brand responses, namely in terms of future purchases. Source credibility builds consumer trust (*Kim & Kim*, 2021), and ultimately explains message acceptance (*Ohanian*, 1990) and behavioral intentions. As a consequence, the literature on digital influencers stresses purchase intention as one of the relevant outcomes of source credibility (*AlFarraj et al.*, 2021; *Djafarova & Rushworth*, 2017; *Masuda et al.*, 2022; *Pick*, 2021; *Schouten et al.*, 2020; *Sokolova & Kefi*, 2020; *Weismueller et al.*, 2020; *Zhu et al.*, 2022). Although the topic of healthy food is understudied, there is evidence of the positive impact of source credibility on purchase intention namely regarding food products (*Calvo-Porrall et al.*, 2021). Hence, and in line with these contributions, it is expected that:

H2 – The Instagrammers' credibility positively affects consumers' intention to buy the healthy food they recommend.

Congruity with the endorsed brand enables the consumer to appropriate symbols and meanings to enhance his/her self-concept (*Sirgy*, 1982) and support his/her identity construction (*Albert et al.*, 2017). As explained by *Belk* (1988), brands have personal and social meanings, which are used by consumers to create, enhance, or communicate their own identity. Self-brand congruity facilitates the initiation and development of customer-brand relationships (*Ghorbani et al.*, 2022), positively affects brand evaluations (*Aguirre-Rodriguez et al.*, 2012; *Islam et al.*, 2018), and fosters consumer preference (*Li et al.*, 2021). Consequently, self-brand congruity is associated with a greater willingness to choose those products when making purchases, hence increasing purchase intention (*Aguirre-Rodriguez et al.*, 2012; *Michel et al.*, 2022; *Phua & Kim*, 2018; *Sirgy*, 1982). In line with these contributions, it is expected that:

H3 – Self-brand congruity increases consumers' intention to buy healthy food.

The integration of the three previously stated hypotheses anticipate a mediation effect of self-brand congruity, and consequently the consideration of both direct and indirect effects of source credibility on purchase intention. However, the assumptions of a mediation effect should be confirmed to make such an assumption. According to *Baron and Kenny* (1986), a mediation effect exists when: (a) variations in the levels of an independent variable are significantly accountable for variations in the presumed mediator (i.e., Path *a*), (b) variations in the mediator are significantly accountable for variations in the dependent variable (i.e., Path *b*), and (c) when Paths *a* and *b* are controlled for, a previously significant relationship between the independent and dependent variables is no longer significant. As such, a full mediation occurs when the direct effect *c* is not significant, whereas the indirect effect $a \times b$ is significant, which is an indication that only the indirect effect via the mediator exists. All other situations under the condition that both the direct effect *c* and the indirect effect $a \times b$ are significant represent partial mediation (*Carrión et al.*, 2017). By assuming the mediation effect of

self-branding, this article posits that the expected impacts of digital influencers' source credibility on their followers' purchase intention (e.g., AlFarraj *et al.*, 2021; Djafarova & Rushworth, 2017; Masuda *et al.*, 2022; Pick, 2021; Schouten *et al.*, 2020; Sokolova & Kefi, 2020; Weismueller *et al.*, 2020; Zhu *et al.*, 2022) is also explained by the fact that source credibility affects self-brand congruence (Aguirre-Rodriguez *et al.*, 2012; Michel *et al.*, 2022; Phua & Kim, 2018; Sirgy, 1982). Consequently, the indirect effects of source credibility on purchase intention ought to be considered to evaluate the impacts of celebrity endorsements. As such, it is expected that:

H4 – The self-brand congruity mediates the influence of Instagrammers' credibility in the intention to buy healthy food.

2.3. The involvement with healthy food (IWHF)

Involvement is used to describe the level of consumer interest, search intensity, and the complexity of the decision-making process toward an object (e.g., healthy food). The object of involvement may be a product, a service, a situation, or an advertisement. Low involvement implies inertia, and high involvement implies a great deal of activation and it is found to influence consumer decision making and interactive communications (Zaichkowsky, 2010). According to Zaichkowsky (2010), low involvement implies inertia, and high involvement implies a great deal of activation and it is found to influence consumer decision making and interactive communications.

Involvement's influence on consumption experiences is best illustrated by the psychological consequences evoked by a product's heightened relevance to the consumer.

Product involvement is the interest a consumer finds in a product class. Such interest stems from the consumer's perception that the product class meets important values and goals. Product involvement and purchase-decision involvement may occur as separate entities (Mittal & Lee, 1989). Because of its psychological implications, a more involving product is likely to lead to a more deliberative evaluation.

As such, involvement is not an evaluative dimension per se; rather, it merely enhances evaluation and subsumes evaluation's dimensions (Mano & Oliver, 1993). According to Krugman (1965), as cited by Greenwald and Leavitt (1984), for the high-involvement consumers, a communication should act most directly to modify beliefs (i.e., verbalizable propositions), and among the less involved ones, the impact should be more on perceptions (such as brand logos or package configurations) and should occur more gradually, being effective only with repeated exposures.

The expression "healthy eating" may take different meanings, depending on the beliefs and interests of those who define it. The food can be associated with the type (e.g., fruit, vegetables, animal foods, safe foods, functional foods), the nutrients (e.g., general nutrients, fiber, vitamins, minerals, fats, carbohydrates), or other components (e.g., gluten, additives, toxins). And foods can also be classified as healthy by the way they are processed (e.g., natural, homemade, organic) (Bisogni *et al.*, 2012).

Hence, involvement is the relevance perceived by a person concerning an object, based on his needs, values, and interests. The greater the involvement with an object, the greater the engagement with it (Correa *et al.*, 2020). When consumers have a

strong interest in the content, they find the information on the product relevant to the content more interesting, and in turn give more favorable responses to an advert (Choi & Rifon, 2002). For this reason, this article elects the acronym IWHF as a surrogate for the involvement with healthy food, regardless of what one understands by "healthy food". Indeed, people's interpretations of healthy eating are not a simple set of beliefs that can be judged as correct or incorrect according to the ways the scientists describe it. Instead, people hold complex, multifaceted beliefs and feelings about this topic that may be connected to other parts of their lives and be based on personal knowledge gained through their life experiences (Bisogni *et al.*, 2012).

In line with these contributions, this study argues that involvement is a user's state of mind that results in a personally meaningful benefit, a user's perception that his/her role is important to meet his/her needs (Di Gangi & Wasko, 2016), and for that reason, it is expected that:

H5 – Consumers' IWHE moderates the influence of self-brand congruity on consumers' intention to buy healthy food.

H6 – Consumers' IWHE moderates the influence of Instagrammers' credibility on the self-brand congruity.

H7 – Consumers' IWHE moderates the impact of Instagrammers' credibility in the consumers' intention to buy the healthy food they recommend.

By combining this set of hypotheses, this article suggests studying the influence of Instagrammers' credibility on the purchase intention of healthy food by their followers, considering consumers' involvement with that type of food, and congruence between the advertised brand and consumers' values. Moreover, Instagrammers' credibility is conceptualized as a second-order factor (attractiveness, expertise, and trustworthiness), in line with extant literature (Calvo-Porrall *et al.*, 2021; Ohanian, 1990; Orazi & Newton, 2018). Figure 1 outlines the conceptual model proposed for this article. To improve readability, the lines corresponding to the second-order relationships have been dashed, and the numbers of the hypotheses were placed next to the correspondent structural relationship.

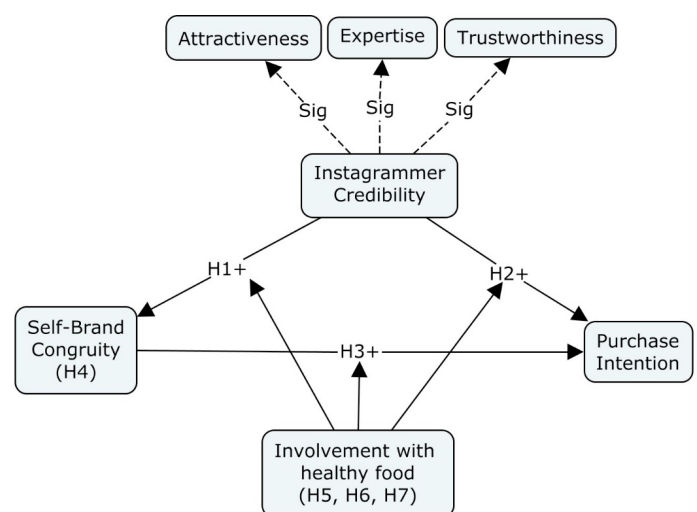


Figure 1

Outline of the conceptual model proposed for this article

Source: Own elaboration.

3. METHOD

To test the research hypotheses defined for this study, a quantitative and exploratory research approach was adopted.

3.1. Materials and measures

Data were collected online, through a questionnaire containing 25 five-point Likert-type scalar questions. The questionnaire was organized into two parts. The first comprised questions for sample characterization, such as demographics and their Instagram usage. Only respondents that followed at least one Instagrammer related to healthy food and lifestyle qualified for this study. Respondents were asked to identify one of such Instagrammers they followed, who would become associated with the remainder questions posed (e.g., Instagrammer credibility). Moreover, this study does not go into the merits of what should or should not be considered healthy, being based on the respondents' interpretations of the expression "healthy food" (Bisogni *et al.*, 2012). As such, the questionnaire did not provide suggestions of healthy food and focused on the general concept, from the participants' perspective.

The questionnaire featured measurement scales adapted from other authors for each of the variables in the conceptual model. The involvement of consumers with healthy food —IWHF— was assessed by a five-point interval scale, adapted from O'Cass (2000), ranging from strongly disagree to strongly agree. Four of the 12 questions on the scale, represented involvement with the product, four represented the involvement with consumption, and another four represented the involvement in purchasing decision for that type of product. The scale representing the self-brand congruity (four items) was borrowed from Sirgy *et al.*, (1997), according to the adaptation by Taylor *et al.*, (2011), and purchase intention was evaluated by three items adapted from Dodds *et al.*, (1991). The Instagrammers' credibility was represented by nine variables borrowed from Ohanian (1990), three of them representing their attractiveness, three referring to their expertise, and three others referring to their trustworthiness. It should be noted that, despite its age, Ohanian's scale is a reliable and valid measurement of celebrity credibility, a topic that has shifted to the online context in recent years (Halder *et al.*, 2021). This scale is an essential tool to characterize celebrities and endorsers, and is frequently considered by digital influencer studies (e.g., Chung & Cho, 2017; Jin & Phua, 2014; J.-S. Lee *et al.*, 2022; J. A. Lee *et al.*, 2022; Lee *et al.*, 2021; Li & Peng, 2021; Ma, 2021; Orazi & Newton, 2018; Shi *et al.*, 2021) offering a relevant contribution to further understand online consumer behavior.

The questionnaire was subject to pretest with 20 individuals with characteristics similar to respondents, who confirmed the clarity of the instructions and the questions posed.

3.2. Participants

Data were collected in November 2019. Individuals were invited to participate in the study using a snowball method. One of the Authors approached a total of 25 individuals from her

social networks and asked them to share the invitation with 10 individuals of their network, who were requested to repeat this procedure.

Ethical procedures were applied to this study, following the procedures usually applicable to research in social sciences (Bryman, 2021). Participation was voluntary, confidential, and anonymous. Complete information on the nature and objectives of the study were provided before posing the questions. Only responses from Instagram users that followed at least one Instagrammer related to healthy food were considered.

As a result of this collaboration process, a total of 221 valid responses were obtained. The sample comprises 221 Portuguese adults, preponderantly female (75%). Regarding education, 32% of the respondents had up to secondary school, 37% were graduates, and 32% were post-graduates (including masters' degree and PhD holders), which is coherent with the medium or high level of education in the country. As expected among Instagram users, the participants tended to be young adults: 30% were 18-26 years-old, 20% were 23-26 years old, 12% were 27-30 years old, 26% were 31-40, and 12% were older than 40. The majority of the participants had a professional career (63%) and the remaining 37% were still studying. Finally, participants had diverse profiles of Instagram usage, spending up to one hour (43%), between 1 and 2 hours (36%) and more than 2 hours (21%) per day on Instagram. As expected, the IWHF did not show significant dependence on gender ($\chi^2=1.175$; $DF=1$; $Sig=0.278$) or on educational level ($\chi^2=0.034$; $DF=2$; $Sig=0.983$). Table 1 presents the distribution of the sample by gender and IWHF.

Table 1
Sample by gender and level of involvement with healthy food

Level of IWHF		Gender		Total
		Female	Male	
Low IWHF	Count	56	23	79
	Expected Count	59.3	19.7	79
High IWHF	Count	110	32	142
	Expected Count	106.7	35.3	142
Total	Count	166	55	221
	Expected Count	166	55	221

Source: Own elaboration.

The procedures for identifying these levels of IWHF are explained below.

3.3. Procedures

Once the involvement with healthy food was captured as metrically scaled indicators, and given that consumer's level of involvement can be used as a segmenting variable (Zaichkowsky, 2010), and taking into consideration that the mechanism of communication impact for low involvement is different from that for high involvement (Greenwald & Leavitt, 1984), before analyzing the main data, the variables representing IWHF were grouped, dichotomized, and transformed into a categorical variable of high and low involvement (Henseler *et al.*, 2016). Taking

into consideration that data representing the IWHF were captured by 12 variables, the identification of consumers of high and low involvement was done by K-Means Clustering Analysis (Assaker & Hallak, 2013), which identified a majoritarian group of 142 consumers (64%) of high involvement, and another of low involvement comprising 79 consumers (36%). Just in case, the IWHF forming variables were compared between the high and low involvement consumers (Figure 2) and evaluated by t-test, and all of them showed significant differences in means ($p < 0.00$) amongst the two groups.

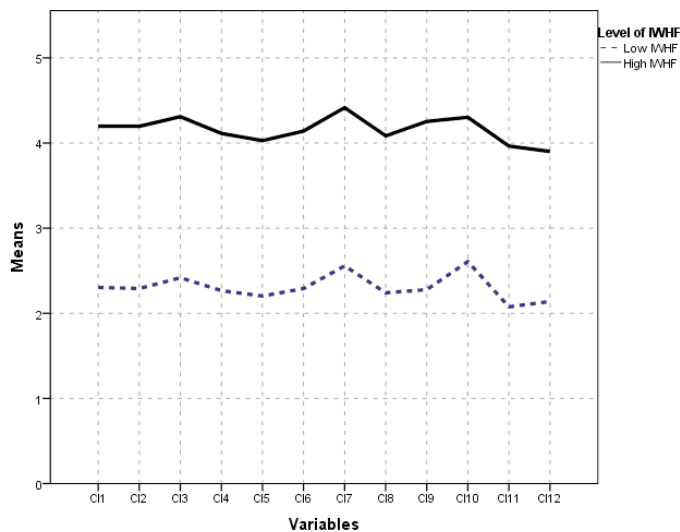


Figure 2
Means of variables across the groups of low and high involvement with healthy food

Source: Own elaboration.

The analysis involved three steps: (a) Cluster Analysis, by K-Means Clustering, to identify consumers of low and high involvement with healthy food; (b) analysis of the measurement model, through Confirmatory Factor Analysis (CFA), to assess the reliability and validity of the factors; (c) structural model analysis, to assess the hypothesized relationships; and (d) comparative analysis (t-test), to assess the invariance of the influence relationships, between the high and low involvement groups (Chin, 2000). Both the measurement model and the structural model were designed and analyzed in Smart-PLS 3.3.3 software (Ringle et al., 2015).

4. RESULTS

Both the measurement and the structural models were evaluated with the Smart PLS-3.3.3 package (Ringle et al., 2015), recommended by Hair et al., (2014) considering the suitability of that algorithm to estimate models with small samples and non-normal data, as in this case. Convergent validity was attested by the value of the factor loadings of the measurement model (the outer model), all of which were greater than 0.7, and by the Average Variance Extracted-AVE greater than 0.5 in all the factors (Hair et al., 2014), as shown in Table 2.

Table 2
Factors fit and reliability

Factors	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	R ²
Instagrammer Attractiveness	0.858	0.912	0.776	0.306
Instagrammer Credibility	0.903	0.923	0.589	0.042
Instagrammer Expertise	0.932	0.957	0.881	0.833
Instagrammer Trustworthiness	0.949	0.967	0.908	0.884
Purchase Intention	0.915	0.946	0.855	0.457
Self-Brand Congruity	0.932	0.952	0.831	—

Source: Own elaboration.

The Composite Reliability indices and Cronbach's Alphas exceeded the expected minimum of 0.7 in all factors, and the Coefficients of Determination - R² of the Purchase Intention, the more important endogenous variable, is around 0.5, which can be classified as moderate explanatory power (Hair et al., 2019; Hair et al., 2014). The discriminant validity was assessed by the criterion proposed by Fornell and Larcker (1981), which compares the correlations between the factors to the square roots of the corresponding AVEs. By this criterion, there is discriminant validity when each AVE square root surpasses the corresponding correlations between the factor and all the others. As shown in Table 3, the square roots of the AVE (in bold on the main diagonal), exceed the correlations in all the corresponding rows and columns, except for the factors referring to the Instagrammer Credibility (b), the higher-order component of which they are a part of Sarstedt et al., (2019, p. 200), which attests the existence of discriminant validity in the model.

Table 3
Factors' Correlations and AVE' Square Roots

Factors	(a)	(b)	(c)	(d)	(e)	(f)
Instagrammer Attractiveness (a)	0.881					
Instagrammer Credibility (b)	0.553	0.768				
Instagrammer Expertise (c)	0.290	0.913	0.938			
Instagrammer Trustworthiness (d)	0.385	0.940	0.805	0.953		
Purchase Intention (e)	0.045	0.350	0.366	0.357	0.925	
Self-Brand Congruity (f)	0.024	0.205	0.210	0.215	0.638	0.912

Source: Own elaboration.

The moderation effect was evaluated by Multi-Group Analysis (MGA), a type of analysis where the moderator variable is categorical and is assumed to potentially affect all relationships in the inner model (Hair et al., 2014). In general terms, a moderator is a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relationship between an independent and a dependent or criterion variable (Baron & Kenny, 1986). Contrary to the standard moderation, the MGA offers a more complete picture of the moderator's influence, once the analysis embraces all the relationships in the model, and not a specific relationship between an exogenous and an endogenous variable (Cheah et al., 2020).

The configural and compositional invariances were assessed by the permutation algorithm available in Smart-PLS 3.3.3 (Ringle et al., 2015). The permutation algorithm allows to test if pre-defined data groups have statistically significant differences in their group-specific parameter estimates (e.g., outer weights, outer loadings, and path coefficients) (Ringle et al., 2015). The configural invariance requires that the same basic factor structure exists in all the groups (in terms of the number of constructs and items associated with each construct); and compositional invariance means that the prescription for condensing the indicator variables into composites is the same for all groups (Henseler et al., 2016).

The configural invariance entails that a composite, which has been specified equally for all the groups, emerges as a unidimensional entity in the same nomological net across all the groups. The compositional invariance (MICOM) is accepted if the correlation between the scores for each construct does not differ significantly from the unity, within the outer weights of each group. As can be seen in Table 4, there are no differences in the composition of both groups, once the correlations of indicators within groups do not differ from one.

Table 4
Results of MICOM (permutation) Procedure

MICOM	Original Correlation	Correlation Permutation Mean	5%	Permutation p-Values
Instagrammer Attractiveness	0.996	0.993	0.992	0.156
Instagrammer Credibility	0.998	0.997	0.989	0.362
Instagrammer Expertise	1.000	1.000	1.000	0.306
Instagrammer Trustworthiness	1.000	1.000	1.000	0.388
Purchase Intention	1.000	1.000	0.999	0.346
Self-Brand Congruity	1.000	1.000	0.999	0.567

Source: Own elaboration.

After testing the invariance to assure that indicators were appropriate for both groups of respondents, the next step was to evaluate the relationships referring to the main set of hypotheses. The structural model analysis attested to the significance of all the structural relationships (the inner model). As shown in Table 5, the relationships of Instagrammers' credibility with the factors it relates to as a second-order factor are all significant ($p < 0.00$). The influence of Instagrammers' credibility on self-brand congruity and purchase intention is significant, which confirms the hypotheses H1 and H2; and the influence of self-brand congruity in purchase intention is also significant, which confirms H3.

Table 5
Structural Relationships

Structural Relationships	Sample Mean	Stand. Deviat.	t	P
Inst. Credibility → Inst. Attractiveness	0.553	0.082	6.72	0.000
Inst. Credibility → Inst. Expertise	0.913	0.015	61.3	0.000
Inst. Credibility → Inst. Trustworthiness	0.940	0.009	109	0.000
Inst. Credibility → Purchase Intention (H2)	0.229	0.063	3.62	0.000
Inst. Credibility → Self-Brand Congruity (H1)	0.205	0.081	2.53	0.014
Self-Brand Congruity → Purchase Intention (H3)	0.591	0.066	8.89	0.000
Specific Indirect Effects				
Instagrammer Credibility → Self-Brand Congruity → Purchase Intention (H4)	0.122	0.047	2.596	0.01

Note: (1) "Inst" = "Instagrammers"; (2) "Stand. Deviat." = "Standard Deviations"

Source: Own elaboration.

Results also confirmed that Instagrammers' credibility transfers 12.2% of its load indirectly to the purchase intention, by the self-brand congruity. This indirect effect attests that self-brand congruity is a partial mediator between Instagrammers' credibility and purchase intention, which confirms H4 ($p=0.01$).

The differences between paths in the models estimated for consumers of low and high IWHF were evaluated by t-test, according to the formula proposed by (Chin, 2000). As per Eberl (2010, p. 497), the statistic of this approach shall be constructed according to the standard errors of the path estimators in the two subgroups, to assess whether they are equal or not. The test statistic is calculated as follows:

$$t = \frac{Path_{sample1} - Path_{sample2}}{\sqrt{\frac{(m-1)^2}{(m+n-2)} \cdot s.e.^2_{sample1} + \frac{(n-1)^2}{(m+n-2)} \cdot s.e.^2_{sample2}} \cdot \sqrt{\frac{1}{m} + \frac{1}{n}}}$$

Comparing the path in the models estimated for groups of high and low involvement, the study identified significant differences ($t > 1.96$) in the influence of Instagrammers' credibility and the self-brand congruity, on the purchase intention of healthy food. As shown in Table 6, the Instagrammers' credibility transfers 11.8% of its weight to purchase intention in the low-involvement group, and 32.9% among the high-involvement consumers; and the self-brand congruity increases 71.4% of the purchase intention among the low-involvement consumers and 45.6% among the high-involvement ones.

Table 6
Comparison of influences in high and low IWHF groups

Structural Relationships	High IWHF		Low IWHF		t
	Original Sample	Standard Deviation	Original Sample	Standard Deviation	
Instagrammer Credibility → Instagrammer Attractiveness	0.503	0.109	0.611	0.109	-1.339
Instagrammer Credibility → Instagrammer Expertise	0.926	0.012	0.898	0.035	1.081
Instagrammer Credibility → Instagrammer Trustworthiness	0.948	0.011	0.929	0.015	1.712
Instagrammer Credibility → Purchase Intention (H7)	0.329	0.083	0.118	0.08	3.565
Instagrammer Credibility → Self-Brand Congruity (H4)	0.235	0.097	0.116	0.158	1.018
Self-Brand Congruity → Purchase Intention (H5)	0.456	0.09	0.714	0.08	-4.359

Source: Own elaboration.

In other words, the influence of Instagrammers' credibility on the purchase decision was found to be almost three times higher among consumers involved with healthy food than in the low involvement group, which confirms H7. On the other hand, the impact of self-brand congruence on the purchase intention is almost twice as important for the low-involvement consumers, than for the more involved ones, which confirms H5. The hypothesis H6, that IWHF should moderate the influence of Instagrammers' credibility on the self-brand congruity was not confirmed as the difference did not achieve the minimum cut-off point ($t > 1.96$).

To facilitate the interpretation the authors replicated manually the estimates for high and low-involvement groups, above and below the core estimates in Figure 3.

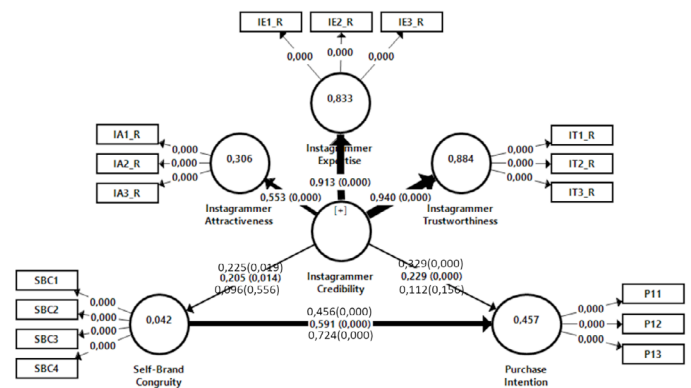


Figure 3
Structural model

Source: Own elaboration.

As shown in Figure 3, when using the complete sample (the core loads) all the structural relationships are significant ($p < 0.00$), and the same occurs for the high-involvement group. However, the influence of Instagrammers' credibility on the self-brand congruity, and the influence of the former on the purchase intention, did not achieve the statistical significance ($p < 0.05$) among the low-involvement group.

In summary, it can be said that:

- Instagrammers' credibility strengthens the purchase intention among consumers with high levels of IWHE, but it does not affect that decision among consumers of low involvement.
- Self-brand congruity significantly improves consumers' purchase intention regardless of their levels of involvement, but its effect is noticeable higher among the consumers of low IWHE, the ones whose purchase intentions are not affected by Instagrammers' credibility.

These findings are in line with [Correa et al., \(2020\)](#) to whom the sole engagement with an influencer does not necessarily mean that a follower will buy the brands he/she recommends since a closer identification of the consumer is necessary. Indeed, the comparison of the means of factors among groups confirms that consumers more involved with healthy food are more congruent with the brands associated with this class of products and more prone to purchase them, which could be obvious and is in line with [Mittal and Lee \(1989\)](#). However, it does cause some surprise the lack of differences in the evaluations of Instagrammers by high and low involvement consumers, given that their influence on the subsequent constructs differs between one group and the other.

The apparent controversy that is established, when the result points out differences in the impacts of Instagrammers' credibility on other constructs, despite no expressive differences existing in the evaluation of the former, suggests that the credibility of these influencers affects purchase intention more by the way it correlates to the choices of ones and others, rather than by credibility evaluation itself. Table 7 presents the means

and difference significances of factors, amongst consumers by involvement with healthy food. For easy interpretation, the differences found to be non-significant are in italics.

The results confirmed that the Instagrammers' credibility drives the self-brand congruity and the purchase intention, thus confirming hypotheses H1 and H2. And the hypothesis that self-brand congruity should improve consumers' intention to buy healthy food (H3) was also confirmed. The hypotheses that involvement with healthy food - IWHF, should moderate the relationships between Instagrammers' credibility, the self-brand congruity, and the purchase intention, was confirmed only in two —among three— tested relationships. The IWHF does moderate the influence of self-brand congruity (H5) and Instagrammers' credibility (H7), on the consumers' intention to buy healthy food, but the influence of Instagrammers' credibility in self-brand congruity (H6) was not confirmed. And the hypothesis that self-brand congruity mediates partially the influence of Instagrammers' credibility on purchase intention (H4), was also confirmed.

As important as analyzing the arrows connecting factors, is to analyze factors' means across different groups, once segments usually differ in attitudes, choices, and in the way they interpret the recommendations. To evaluate the opinion prevalent in each segment across the constructs, the factors were transformed into manifest variables by the averages of their indicators and evaluated by a t-test (assuming equivalent variances).

The result identified significant differences between the two levels of involvement, in the self-brand congruity and the purchase intention (Table 7).

Table 7
Factors' means and differences between groups of low and high involvement

Level of IWHF	N	Mean	Standard Deviation	t	DF	Sig.	
Instagrammer Attractiveness	Low IWHF	79	2.49	1.06	0.82	219	0.414
	High IWHF	142	2.38	0.98			
Instagrammer Trustworthiness	Low IWHF	79	2.08	1.03	1.84	219	0.067
	High IWHF	142	1.84	0.92			
Instagrammer Expertise	Low IWHF	79	2.15	1.08	1.55	219	0.122
	High IWHF	142	1.93	1.01			
Purchase Intention	Low IWHF	79	2.62	1.08	-5.77	219	0.000
	High IWHF	142	3.27	1.03			
Self-Brand Congruity	Low IWHF	79	2.33	0.90	-4.46	219	0.000
	High IWHF	142	3.06	0.97			

Source: Own elaboration.

Trustworthiness and experience are the factors that best reflect the Instagrammers' credibility to recommend healthy food (Figure 3). And self-brand congruence is the most important driver of purchase intention in the model, given that its effects are significant in both segments, while the Instagrammers' credibility influences that behavior only among the high-involvement consumers.

The positive effect of digital influencer credibility on self-brand congruity suggested by extant literature (e.g., Dwivedi *et al.*, 2015; Li & Peng, 2021) was confirmed in the particular context of Instagrammers' endorsement of healthy food products and brands. The same applies to the expected impacts of both source credibility (e.g., AlFarraj *et al.*, 2021; Djafarova & Rushworth, 2017; Masuda *et al.*, 2022; Pick, 2021; Schouten *et al.*, 2020; Sokolova & Kefi, 2020; Weismueller *et al.*, 2020; Zhu *et al.*, 2022) and self-brand congruity (e.g., Aguirre-Rodriguez *et al.*, 2012; Michel *et al.*, 2022; Phua & Kim, 2018; Sirgy, 1982). Hence, this study provides further empirical support to extant literature, particularly in the context of healthy food purchase intention. Furthermore, this article provides two important contributions that should be stressed. The model proposed by this study includes a mediation effect that was shown to be determinant in understanding the impact of Instagrammers on healthy food purchase intentions. Despite being a result of the combination of well-established hypotheses and coherent with the theoretical assumptions of a mediator effect (Baron & Kenny, 1986), to the best of the authors' knowledge, this effect has not been tested in previous studies. As demonstrated in the previous pages, this effect was important to provide a wider understanding of the impacts of source credibility on purchase intention, especially when segmenting the consumers according to their level of involvement with healthy food. Aligned with the prevalence of market segmentation practices by managers, this study demonstrates that comparing relevant groups of consumers may uncover interdependencies between variables and, ultimately, help identify more effective ways to influence consumer behavior.

5. CONCLUSION

Following the growing steam of research on the impact of Instagrammers on consumer behavior (Dwivedi *et al.*, 2021; Vrontis *et al.*, 2021), this article focuses on healthy food purchase intentions, by shedding light on how consumer involvement with healthy food affects the impact of Instagrammers on their followers' purchase intentions and congruity regarding the advertised brands. The consequent theoretical and managerial implications are presented below.

5.1. Theoretical implications

From the theoretical standpoint, the study advances knowledge by demonstrating that the impact of Instagrammers' credibility on intention to purchase the advertised products affects differently the segments of consumers with high and low involvement with the consumption of the products under study, in this case healthy food. Hence, although this study contributes to the literature stressing the importance of influencers' credibility to explain

consumer behaviors, particularly purchase intentions (AlFarraj *et al.*, 2021; Calvo-Porrall *et al.*, 2021; Masuda *et al.*, 2022; Pick, 2021; Sokolova & Kefi, 2020; Weismueller *et al.*, 2020), it demonstrates that a closer look at consumers' characteristics, particularly their involvement with the product typology, is essential to a deeper understanding of this phenomenon. To the best of the authors' knowledge, this is the first study to evidence the importance of segmenting consumers according to product involvement and to demonstrate how this approach can help further understand complex phenomena such as the impact of digital influencers on purchase intentions, namely regarding healthy food products.

5.2. Managerial implications

From a management perspective, the work offers important insights for marketing managers involved in finding the right influencer for the right audience, particularly in mature and saturated markets where the scope for product differentiation is almost ineffective (Erdogan, 1999). As stressed by Lin *et al.*, (2018), the selection of the influencer that best fits the products and services of one brand is critical for managers. This article demonstrates that, although influencer's credibility is an essential aspect to consider, agreeing with extant literature (Choi & Rifon, 2002; Djafarova & Rushworth, 2017; Schouten *et al.*, 2020; Vrontis *et al.*, 2021), this article further argues that its importance depends on the type of consumers being targeted.

Although it is tempting, intensifying communication through social networking sites, or even hiring loquacious influencers with great popularity, good looks, or expertness does not guarantee success. Before investing in the creation of content it is important to analyze the degree of involvement of the segment that one wants to reach and verify whether it is likely to be persuaded through digital influencers. If consumers whom one wants to reach are highly involved with the product category to be promoted the content-marketing may be a good choice; else, other strategies may work better.

5.3. Limitations and future research directions

This work is limited by size and the non-normality of the sample, a characteristic that restricts deeper analyses, like the estimation and comparison of models through covariance-based algorithms, among others. Despite the robustness and the popularity achieved by Smart-PLS in recent times, we must acknowledge that the lack of FIT measures makes it difficult to perform accurate analyses, such as the statistical comparison of first versus second-order models, for example. New studies are highly recommended, either to replicate the present findings in more generous samples, comparing different cultures or expand the segmentation criteria, or to enrich the model by incorporating other constructs (e.g., involvement with social networking sites, involvement with specific influencers, attitude toward advertising on social networking sites, advertising avoidance, etc.). Future research could also further explore the concept of healthy food, by considering particular types of diets or foods that are promoted by digital influencers. And beyond these, studies with other objects (e.g., tourist destinations, sustainable brands, green fashion) are highly desirable.

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