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Cristina Martins de Freitas

Dissertation presented as partial requirement for obtaining the Master's degree in Information Management with a specialization in Marketing Intelligence

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by

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Supervisor: Professor Diego Costa Pinto, PhD

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STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

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ABSTRACT

In the last decade, the fitness industry has been growing accompanied by the emergence of a new occupation, namely, social media fitness influencer, especially on Instagram. Not only are social media influencers successful in endorsing brands and products and in influencing purchase intentions of their audience, but they also can promote lifestyles in their platforms like healthy behaviour and fitness. This study aims to investigate the factors associated with the social media fitness influencers that can impact on users' attitudes and behavioural intentions towards fitness goals, more concretely, weight loss and muscle gain. Furthermore, this study evaluates if the social media influencers' source credibility and authenticity, the followers' self-esteem and body image and the use of filters in the fitness content post impact significantly on users' attitudes and behavioural intentions towards fitness goals. To conduct the study, a questionnaire was implemented to collect data from a sample of 231 participants, who are active users on Instagram and follow social media influencers. As result, it was found that fitness social media influencers' trustworthiness, expertise, attractiveness and authenticity have a significant positive impact the followers' behavioral intentions towards fitness goals. Moreover, social media influencers' expertise is the greatest predictor of behavioral intentions towards fitness goals. Lastly, there is evidence that followers' gender moderates the effect of social media influencers' trustworthy and expertise on followers' behavioural intentions to achieve the fitness goals.

KEYWORDS

Social media influencers; fitness industry; influencer credibility; influencer authenticity; body image; self-esteem

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LIST OF ABBREVIATIONS AND ACRONYMS

AVE	Average Variance Extracted
SMI	Social media influencer
S.E.	Standard deviation
KR-20	Kuder-Richardson Formula 20
SPSS	Statistical Package for the Social Sciences
χ^2	Chi-square
R^2	R-square

1. INTRODUCTION

In the last decades, it has been a huge growth of the social networking platform usage. Recent studies found that social media can be beneficial to promote healthier behaviour in the communities (Vaterlaus et al., 2015). However, social media can be also a barrier, since many literatures suggested the social media consumption can have negative effects on body image and body satisfaction, leading often to eating disorders (Bair et al., 2012; Rodgers et al., 2011; Vartanian & Dey, 2013). Furthermore, some studies have shown online sharing has a little effect on the level of working out actually done (Williams et al., 2014; Zhou & Krishnan, 2019). Similar to traditional media figures, social media influencers can be considered models for observational learning and, therefore, could influence the beliefs of their followers (Bandura, 1986). Multiple studies found that some social media influencers are able to influence the purchase intentions of their community (Sokolova & Kefi, 2020), being seen as more credible comparing to traditional celebrities (Colliander & Dahlén, 2011; Shareef et al., 2019). Besides of promoting products and services, they can also promote their values and lifestyles. Therefore, it is crucial to understand how social media influencers influence the intentions and behaviour of their audience beyond purchase intentions. Nowadays, the consumption of social media content is very high and increasing among young people and the size of communities for some social media influencers are comparable to traditional media (Mohsin, 2022). The most used social media platform worldwide for influencer endorsements is Instagram due to its visuality and interactivity (Santora, 2021). In particular, in the last decade, the fitness industry has been growing accompanied by social media fitness influencers. Furthermore, people are becoming more self-ware of the importance to have a healthy lifestyle, leading to the increasing of consumption on healthy food, fitness equipment and sportswear. Because of that, fitness has become a trend for millions of people, contributing to the fast increase of size and popularity of the fitness industry (Stasha, 2021). Fitness influencers on Instagram give content regarding their workouts with tips, diet regimes, online coaching, among other things, to their audience. Furthermore, they are usually trendsetters with regards to their diets and exercise regimes (Social, 2020). A research study showed that Instagram fitness influencer can have an impact on the consumer behaviour, if it has some conditions such being trustworthy or the fit of a product to the individual goals of the consumer (Tschirpig, 2020).

Influencers identify the physical activity and diet regime practices as main factors to be controlled for fitness goals (Pilgrim & Bohnet-Joschko, 2019). However, the knowledge on how to use social media platforms to encourage healthy lifestyles is still limited (Tate et al., 2015). Besides that, there are not many research literatures with regards to the role of the influencers in promoting physical activity behaviours (Raggatt et al., 2018). Regarding the use of filters on fitness media content, some fitness

influencers are portraying unrealistic body ideals of how it should look, so, instead of inspiring followers to be healthier and fitter, it may have damaging effect and lead to unhealthy behaviours to be able to match the unrealistic expectations of the ideal body portrayed. Therefore, it is necessary to study if they can significantly affect the follower's behaviour commitment to achieve to a certain fitness goal and find which factors that may affect the follower's behaviour commitment to achieve it. Therefore, could social media influencers be drivers for healthier lifestyles of their followers, and to what extent?

To address the gap, the dissertation aims to investigate the impact of using Instagram fitness influencers on behaviour attitudes and intentions towards fitness goals, more specifically, weight loss and muscle gain goals. In this study, the used approach analyses the consumers' perception of influencers endorser's trustworthiness, expertise and attractiveness, and their perceived authenticity and also followers' self-esteem and body image. Furthermore, it investigates the use of filters in fitness media content by Instagram influencers in order to understand their impact on consumers' behavioural intention towards fitness goal. To be able to study it, it is compulsory to obtain an answer to the following research question: How do fitness social media influencers impact the followers' fitness goals?

To investigate the previous research question, a conceptual model was built and evaluated. The hypothesises were tested based on data collected in an online survey from respondents belonging to the Instagram community who follow any influencer. As a result, it is crucial to do extensive research by seeking answers to the following additional sub-questions that support the research question:

1. How does the social media influencer credibility (trustworthiness, expertise and attractiveness) and authenticity affect the behavioural intentions towards fitness goals, specifically, weight loss and gain muscle?
2. How does the followers' self-esteem and body image behavioural intentions towards fitness goals?
3. What is the impact of the use of filters in the fitness media consumption on behavioural intention towards fitness goals?

This research aims to extend the literature on the relationship between consumer behaviour and social media consumption. In particular, it is focused on Instagram platform, which is very popular among millennials, in order to understand the role of social media consumption and social media figures in influencing fitness goals, through exercise and diet. Furthermore, since a lot of literature studied the negative influence of media consumption, this research aims to provide additional information of the role of social media influencers and social media consumption in promoting and influencing healthier

behaviour like exercise and healthy diet. Instagram influencers are popular in influencer marketing since they have shown their influence power in purchasing intentions of their audience (Sokolova & Kefi, 2020). Our study is to understand better the influence of social media influencers on intentions beyond the purchase intentions.

The dissertation is organized as follows: Section 2 presents the literature review to provide the theorical background to each construct and to justify hypothesis. Section 3 presents the proposed conceptual model and hypotheses to be tested. Section 4 describes the methodology applied, more concretely, the questionnaire and statistical procedures. Section 5 describes the results of the research and discusses them. Section 6 presents the final conclusions and contributions of this study, answering the research question. The dissertation ends by highlighting the limitations of the study and the paths for further studies in Section 7.

2. LITERATURE REVIEW

In past few years, influencer marketing has been more and more used to advertise a brand or a product or a service on social media in order to increase its awareness, reach new audiences, as well as improving sales conversions. According to Influencer Marketing Hub, from $1.7 billion in 2016, influencer marketing industry is estimated to be worth $13.8 billion in 2021 (Santora, 2021). The most used social media platform worldwide for influencer endorsements is Instagram due to its visuality and interactivity (Santora, 2021). Influencer endorsements are promotional content shared by an influencer that makes a recommendation of a brand's product or service to their followers' community. In the last decades, social media fitness influencers started to appear. Nowadays, people are becoming more self-ware of the importance to have a healthy lifestyle, leading to the increasing of consumption on healthy food, fitness equipment and sportswear. Because of that, fitness has become a trend for millions of people, contributing to the fast increase of size and popularity of the fitness industry (Stasha, 2021). Not only can influencers in fitness promote a product or a service but also, they guide the followers to follow healthy lifestyle in order to achieve a certain fitness goal. Furthermore, fitness influencers are usually trendsetters with their diets and workouts regimes (Social, 2020).

In this chapter, it is presented a conceptual framework, by analyzing many theories from different researchers from which constructs and findings were collected in order to understand the factors that may influence the behavioral intention to achieve fitness goals.

2.1. FITNESS TREND

Since the end of the 19th century, people start to give importance to the balance between the body and the mind. Furthermore, society start to pressure women to have a thin body, which could be achieved by regular home workouts and diet regimes (Koch, Alexandra; Luu, 2015). During the Second World War, the body ideal for men was an athletic and healthy body, since this body type was perceived to be powerful and strong. In that time, the photos of men in media resemble with today's bodybuilding. In 1970s, the boom of fitness trend started in Europe, since it was trendy to do jogging, therefore, an increasing number of people joined the lifestyle of being fit (Neumaier, 2002).

Over the decades, the fitness philosophy continued and bodybuilding became trendy (Hoffmann, 2002). Over the time, with regards to the gyms, people start to pay attention to new factors such as health, fun or communication, besides focusing on their figure (Hoffmann, 2002). In 1990s, to be able

to achieve their ideal bodies, people followed strict workout plans (Haemers, 2016). Nowadays, people go to the gym due to their wellness, so besides working out, it can include also going to the sauna afterwards or drinking protein shake after training (Hoffmann, 2002).

The main reason why people follow a healthy and fit lifestyle is because of its benefits on physical body and mental health. The positive impact of fitness is higher for people who suffer from diseases like diabetes or high blood pressure (Kelc, 2002). Generally, people who are more physical active are more likely to eat health food and get sick less times (Kelc, 2002). Therefore, fitness has been a trend topic for the last years, since people are more aware with regards to their well-being and health due to the social media platforms (Chue, 2018) (Ridgway & Clayton, 2016). On social media, health and fitness have been present since they co-exist each other (Koch, Alexandra; Luu, 2015). The number of people who follow the "fitness lifestyle" – which includes having a healthy diet, doing workouts regularly and taking care their mental health – and post content on social media about it is increasing a lot (Juhlin & Soini, 2018). They usually share tips regarding diet regime and workouts in order to help their followers to achieve their ultimate fitness goals (Koch, Alexandra; Luu, 2015). While on the one hand it can inspire and motivate some people, on the other hand it can lead to comparisons themselves with other people on social media, especially young women (Juhlin & Soini, 2018). According to a study conducted by Cohen and colleagues (2017), Instagram users had significantly a higher the level of surveillance – which stands for body objectification and body image concerns – than non-users of Instagram. Since there are many posts of thins – and sometimes unhealthy – bodies on Instagram, adolescent women portray those bodies as their goal (Cohen et al., 2017).

Although some people tend to compare themselves to unrealistic fitness bodies, leading to a low self-confidence and wrong self-perception, social media can be a powerful helpful and motivating tool when they follow the right role models. Not only can social media motivate and inspirate fitness habits, it can be also used as an tool for businesses in order to conduct social media marketing (Tuten, T., & Solomon, 2017).

2.2. Social Media Influencers

Social Media Influencers are social media users who have a community of followers in a niche area and can attract and influence their followers to follow their endorsements in the decision-making process because of their relationship with their community and their knowledge and expertise in a specific area such as fitness (Lou & Yuan, 2019). From a marketing perspective, SMIs are represented as a new and potentially more effective form of advertising (Booth & Matic, 2011). The SMIs' persuasive power is a function of the trustworthiness, credibility and authenticity of the influencer's presentation (Abidin, 2015). Therefore, Social Media Influencers include anyone who disseminates knowledge

related to their expertise area, advertises brands, creates entertaining content, interacts with users and increases consumers' brand attitude on social media platforms (Jin & Ryu, 2020). Nowadays, it is estimated that 56,8% of population worldwide use social media, and many of them look up to Social Media Influencers to help them on purchase decisions and which trends to (Dean, 2021). Amongst the social media platforms, Instagram is the preferred choice for Social Media Influencers to communicate with followers since it has a high engagement rate per post (Jackson, 2019) and a high conversion rate (Sahu, 2020).

Comparing to the traditional advertising practices, SMIs appear to be more authentic, thus more relatable to their followers (Senft, 2008). They usually produce cultural content based on their personal lives. However, it is needed to pay attention on the production and management of the authenticity in their online persona by sharing intimate and personal content from their everyday life (Duffy & Hund, 2015). To achieve the authenticity, it can be used diverse types of selfies. For instance, beauty bloggers use selfies to show their face with make-up and without it (Gannon & Prothero, 2016). Other way is to feature only products that are relatable to their online persona by displaying transparent information of the product in an emotional story of their own relationship with it (Audrezet et al., 2018). Paradoxically, then, authenticity is becoming a strategic form of self-presentation (Gaden & Dumitrica, 2014).

The consumption of social media can lead to negative behavior such as eating disorders (Rodgers et al., 2011). However, fitness influencers can inspire exercising and living a healthy lifestyle to their community. Such media channels like Instagram propose workout videos, exercising tutorials, diet posts, sharing past experiences of the influencer, tips, among other contents. Following the theories suggesting that the audience usually selects the media content according to their opinions and interests, we can assume that, in general, followers of fitness influencers are interested in healthy lifestyles and fitness. Therefore, exposed followers to a selected model who advocates a healthy lifestyle can generate intentions toward healthy lifestyle (Ramchandani et al., 2014).

2.3. AUTHENTICITY

Influencer authenticity is defined as the degree of person's inferences that an influencer is devoted to produce content by self-gratifying and intrinsic reasons. One recent study found that consumers have a high brand authenticity if they perceive that the brand's managers are intrinsically motivated and passionate about selling the product (Julie et al., 2016). Regarding influencers brands, the brand managers are the influencers, therefore followers can perceive more their passion directly. Nowadays,

influencers can portray themselves in different creative ways and engage intimately with followers. The audience expect to connect with influencers on an emotional level, which requires genuineness. In other study, it has been shown passionate authenticity is linked to influencer authenticity (Audrezet et al., 2018). A self-gratifying activity which the influencer enjoys to create content can be attributed to passionate authenticity (Audrezet et al., 2018). Being true self to oneself is reflected by the intrinsic motivation of the influencer, which significantly improves the authenticity perceived by followers (Felicitas et al., 2015).

Based on this, we want to extend previous research by investigating the impact of influencers authenticity on the behavioral intention of fitness goals. Formally:

H1: Perceived authenticity has significantly positive effect toward to consumers' behavioral intention towards fitness goal, for consumers exposed to muscle gain and weight loss posts.

2.4. CREDIBILITY

The perceived credibility of an influencers can be seen as how a person perceives the influencers' recommendations as true and unbiased. It can explain the effectiveness of an influencer message, depending on perceived expertise and trustworthiness of an influencer (Hovland & Weiss, 1951). When the source is credible, the information can influence thoughts, believes, attitudes and behaviours through internalization process, if followers embrace the source influence in their attitude and values (Erdogan, 1999). Ohanian indicated source credibility of an influencer is sometimes used to influence the consumer to accept a message (Ohanian, 1990). The perceived credibility of an influencer is a relevant factor for the advertiser since the influencer is the main source of information (Friedman & Friedman, 1979). To be able to measure it, Ohanian developed three constructs, namely, the perceived expertise, trustworthiness and attractiveness of the influencer in the advertisement field (Ohanian, 1990). Therefore, fifteen items of perceived credibility of an influencer have been approved and used by many researchers (Pornpitakpan, 2004). Thus, in this study, as proposed by Ohanian (1990), the perceived credibility of an influencer is measured in the three dimensions: influencers' perceived attractiveness, trustworthiness and expertise.

2.4.1. Attractiveness

According to Erdogan (1999), attractiveness can be defined as the stereotype of positive associations to a person, including physical attractiveness, personality and athletic ability (Erdogan, 1999). There

are evidences that attractive influencers are mostly believed and preferred to have a better impact on products, more specifically, higher purchase intentions, comparing to unattractive influencers (Joseph, 1982). This dimension is also an important factor to spread effective messages (Schlecht, 2003). It has been found that attractive influencers have more influence on consumers than unattractive influencers ones (Joseph, 1982; Kahle & Homer, 1985). However, some researchers reported that influencers' attractiveness is only significant when the product enhances the attractiveness of the consumer. To conclude, the influencer is attractive when followers perceive him or her as elegant, classy, attractive, beautiful and sexy (Ohanian, 1990).

Based on this, we aim to investigate the impact of of influencer' attractiveness on the behavioral intention of fitness goals to extend previous research. Formally:
H2: Influencer' attractiveness has significantly positive effect toward to behavioral intention to fitness goals for consumers exposed to muscle gain and weight loss posts.

2.4.2. Trustworthiness

Ohanian (1990) considers that the trustworthy influencer is more persuasive, regardless his or her expertise. Trustworthiness is the honesty, integrity and believability the influencer has (Loggerenberg & Wehmeyer, 2011). It can be also the level of confidence that consumers put on influencers' intent to express the assertions they consider valid (Ohanian,1990). Briefly, the influencer is trustful when followers perceive him or her as dependable, honest, reliable, since and trustworthy (Ohanian, 1990).

Based on this, we aim to investigate the impact of of influencer' trustworthiness on the behavioral intention of fitness goals to extend previous research. Formally:
H3: Influencer' trustworthiness has significantly positive effect toward to behavioral intention to fitness goals for consumers exposed to muscle gain and weight loss posts.

2.4.3. Expertise

Expertise can be the authoritativeness, competence and qualification that endorser possess (Berlo et al., 1969). It can be defined as the degree to which the influencer is perceived to possess the relevant knowledge, experience or skills to promote a product (Loggerenberg & Wehmeyer, 2011). The expertise of the endorser is only important when consumers perceive it to be (Erdogan, 1999). To conclude, the influencer is expert when Instagram users perceive him or her as expert, experience, skilled, qualified or knowledgeable (Ohanian, 1990).

Based on this, we aim to investigate the impact of of influencer' attractiveness on the behavioral intention of fitness goals to extend previous research. Formally:
H4: Influencer' expertise has significantly positive effect toward to behavioral intention to fitness goals for consumers exposed to muscle gain and weight loss posts.

2.5. BODY IMAGE AND SELF-ESTEEM

Body image can be defined as the view of someone's own overall physical appearance and it is very important for the mental health and self-worth of a person (Altabe & Thompson, 1996; Weinreb & Moon, 2006). It can be also related to self-esteem, identity, sexuality and family relationships. It also means the perception of their own body and the internal representation of their own outer appearance (Thompson & Sinha, 2008). Previous research studies showed that low esteem can be led by negative body image and body dissatisfaction. Self-esteem can be defined as the experience of having competences to deal with the basic challenges of life and feeling worthiness of happiness. It is the junction of self-respect and self-confidence (Branden, 2001). Having a negative attitude towards their own body leads to feelings of worthlessness and lower confidence level. Self-esteem is considered to be an important factor of overall well-being (Jackson, 2019; Weinreb & Moon, 2006). Much research have shown eating disorders are increasing because of the negative body images or low self-esteems (Button et al., 1997). Body image is a psychological construct, which can mean the someone's perception, thoughts and feelings about their own body. Body dissatisfaction is negative thoughts and feelings about their own body and these feelings are mostly determined by social experiences like media images (Grogan, 2007). It has been found that people who have negative body image also have negative feelings about themselves and for some people those negative feelings can lead to distress, interfering in their daily life (Cash et al., 1997). Some research have shown severe negative body image or low self-esteem can lead to serious disorders like anorexia or bulimia, especially in young girls (Croll, 2005; Field et al., 2001). Self-esteem is so linked to the body image that physical appearance has consistently been found to be the main predictor of self-esteem (Ata et al., 2007).

Previous studies shows evidence that exposure to the thin "ideals" in social media can negatively affect the body image of the followers, decrease their self-esteem and level of satisfaction with their own body (Grabe et al., 2008). However, social comparison and self-evaluation can generate intentions to progress if the fitness goal is perceived as achievable. Since the audience usually perceives

influencers as peers and can relate to them (Colliander & Dahlén, 2011), the positive results of fitness achieved by an influencer could be seen as a motivator factor.

Therefore, we aim to study the impact of followers' body-image and self-esteem on the behavioral intention of fitness goals. Moreover, we want to investigate the connection of using filters in fitness posts and the behavioral intention of fitness goals. Formally:

H5: Followers' self-esteem has significantly negative effect toward to behavioral intention to fitness goals for consumers exposed to muscle gain and weight loss posts.
H6: Followers' body-image has significantly negative effect toward to behavioral intention to fitness goals for consumers exposed to muscle gain and weight loss posts.
H7: The self-esteem induced through influencers has a significant positive influence on consumers' behavioral intention towards fitness goals for consumers exposed to an ideal fitness post than a real fitness photo.
H8: The body image induced through influencers has a higher influence on consumers' behavioral intention towards fitness goals for consumers exposed to an ideal fitness post than a real fitness photo.

2.6. OVERVIEW OF THE PRESENT RESEARCH

To provide conclusions on how consumers' behaviour intention towards fitness goals is influenced by fitness influencers on Instagram, this study will use a deductive quantitative approach, since it determines and tests research questions by collecting and analysing data (Streefkerk, 2019). A conceptual model was designed according to the previous mentioned constructs and hypotheses to support the methodology.

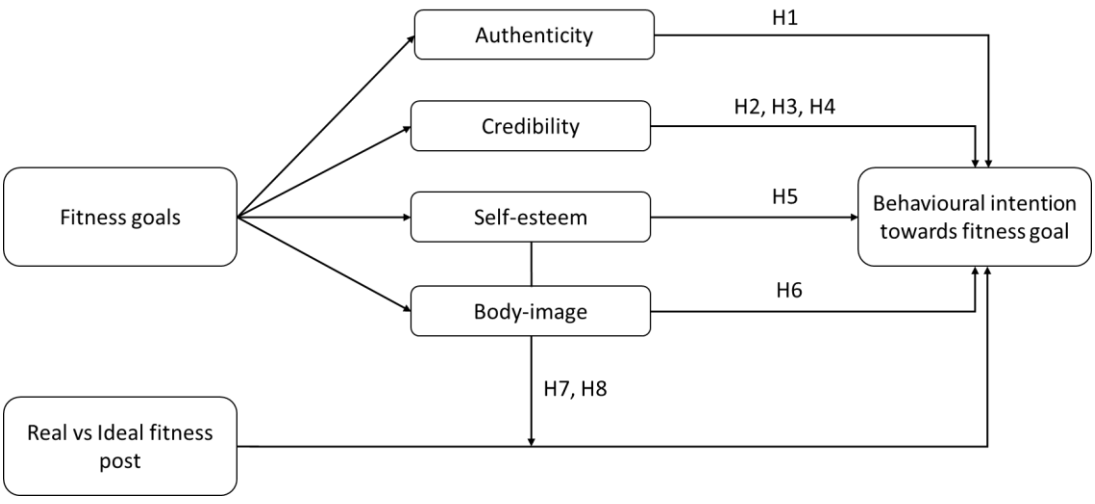

Figure 1 - Conceptual model

3. METHODOLOGY

3.1. QUESTIONNAIRE DESIGN

To perform this study, a survey research was conducted to collect data from the target population, which is Instagram users that follow any influencer. The type of survey is an online questionnaire developed on Qualtrics that contains fitness post by a fictitious Instagram fitness influencer. The questionnaire was distributed on social media networks, such as Facebook and LinkedIn, and also on message platforms, namely Messenger and WhatsApp. Furthermore, the confidentiality and anonymity of the results was ensured, and it was guaranteed that the data collected will be used in aggregated form for only academic purposes. The questionnaire was composed by three main modules.

The first module includes qualification questions to determine if the respondents belong to the target population. The filtering questions only allowed to proceed the participants who answered positively if they use Instagram actively and follow any influencer.

In the module two, the fitness post by a female Instagram influencer was assigned randomly to female participants in one of the four conditions: either for weight loss or gain muscle goal and either with use of filter or not in the post. Additionally, for male participants, the fitness post by a male Instagram influencer was assigned randomly in one of the four conditions: either for weight loss or gain muscle goal and either with use of filter or not. Following the post, the respondent was asked their perceptions on that influencer' credibility and authenticity. After, a set of questions about their own body image and self-esteem perceptions were asked.

The third module consists of socio-demographic questions, namely, respondent's age, occupation, country and education level, to understand the different behaviours of the population.

3.2. MEASUREMENT SCALES

In most of the questionnaire items, the respondents are asked to select their level of agreement in a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7) in order to be possible to standardize the measurement scales. In total, six constructs were calculated from the mean of measurement items, namely, Trustworthiness, Expertise, Attractiveness, Self-Image, Body Image and Authenticity. To study each construct mentioned before, it was used the following adapted scales from different authors:

Table 1 – Scales and measures of items

Constructs	Measurement items	Sources
Trustworthiness	**"Please rate the following factors in terms of how much you agree or disagree with regards to the influencer of the previous post." (7-point Likert scale: 1= "Strongly Disagree"; 7= "Strongly Agree")** Attractive Classy Beautiful Elegant Sexy	Ohanian, R. (1990)
Expertise	**"Please rate the following factors in terms of how much you agree or disagree with regards to the influencer of the previous post." (7-point Likert scale: 1= "Strongly Disagree"; 7= "Strongly Agree")** Expert Experienced Knowledgeable Qualified Skilled	Ohanian, R. (1990)
Attractiveness	**"Please rate the following factors in terms of how much you agree or disagree with regards to the influencer of the previous post." (7-point Likert scale: 1= "Strongly Disagree"; 7= "Strongly Agree")** Dependable Honest Reliable Sincere Trustworthy	Ohanian, R. (1990)
Authenticity	**"Please rate the following sentences in terms of how much you agree or disagree." (7-point Likert scale: 1= "Strongly Disagree"; 7= "Strongly Agree")** This influencer has a true passion for his or her field This influencer wants to do his or her best at providing his/her content This influencer is devoted to what s/he does on Instagram	Moulard et al. (2016)
Body Image	**"Please indicate how much satisfied or dissatisfied that best describes how you feel right now at this very moment with regards to the following statements." (7-point Likert scale: 1= "Extremely Dissatisfied"; 7= "Extremely Satisfied")** Right now I feel _____ with my physical appearance. Right now I feel _____ with my body size and shape. Right now I feel _____ with my weight. Right now I feel _____ with my physical attractiveness.	(Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002)

	Right now I feel _____ about my looks than I usually feel. Right now I feel _____ about my looks comparing to the average person looks.	
Self-Esteem	**"Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement." (7-point Likert scale: 1= "Strongly Disagree"; 7= "Strongly Agree")** On the whole, I am satisfied with myself. At times I think I am no good at all. I feel that I have a number of good qualities. I am able to do things as well as most other people. I feel I do not have much to be proud of. I certainly feel useless at times. I feel that I'm a person of worth, at least on an equal plane with others. I wish I could have more respect for myself. All in all, I am inclined to feel that I am a failure. I take a positive attitude toward myself.	(Rosenberg, 1965, 1979)

3.3. DATA PROCESSING AND ANALYSIS

Using G*Power tool, a power analysis was performed to compute the minimum sample size for this study. Considering the binary dependent variable under study, a minimum sample size of 33 participants is needed to achieve 95% statistical power for a large effect size of 0.08 at a significance level of 5% (Faul et al., 2009). In the study, since there are four conditions (Muscle Gain vs Weight Loss; Filter vs No Filter), it is needed 33 responses for each specific condition. Therefore, the minimum sample size required is 132 responses in total. However, in this study, a bigger sample was used in order to minimize the error.

After collecting 357 answers between January 2022 and July 2022, the data was pre-processed and cleaned in order to not have incomplete, irrelevant or wrong answers. In total, 231 answers were eligible for the study's purpose. Then, a statistical analysis using SPSS program was carried out. Firstly, the data processing started with the validity and reliability of the constructs under study were evaluated to be able to conduct a correlation analysis of constructs and other variables. Secondly, it was conducted a descriptive analysis of the respondents' sociodemographic characteristics (e.g. age, gender, country). Following that, a differential and correlation analysis of moderators and variables were conducted. Lastly, to assess the effect of the independent variables and the mediator variable on the dependent variable, different binary logistic regressions were performed.

4. RESULTS AND DISCUSSION

4.1. PSYCHOMETRIC ANALYSIS

Considering that the quality of the results is dependent on the instruments used, it is highly essential to conduct a psychometric analysis to assure measurement items' validity and reliability of each construct under study (Souza et al., 2017).

Reliability refers a consistent result in terms of coherence, stability and precision in a period of time and place or from different observers. To evaluate items' internal consistency (reliability), it is used two approaches: Cronbach's alpha and Composite Reliability. It is calculated the respective Cronbach's alpha coefficient and composite reliability to assess the extent of how close a set of items are as a group. Some studies consider that values above 0.7 are ideal, meanwhile other research consider values already above 0.60 as acceptable.

From the results presented on table 4.1., every construct has Cronbach's alpha coefficient values ranged from 0.864 and 0.944. To have the loadings' items to calculate composite reliability, it is needed to conduct factor analysis with varimax rotation beforehand. As result, the continuous constructs have a composite reliability ranged from 0.857 and 0.941. Since both measures have values above the minimum threshold of 0.70. all constructs present a good internal consistency reliability (Hair et al., 2019; Sarstedt et al., 2017).

Table 4.1 – Items' reliability and validity measures

Constructs	Cronbach's Alpha	Composite Reliability	AVE
Attractivenesss	0.894	0.871993075	0.5791652
Expertise	0.944	0.900124	0.643511
Trustworthiness	0.921	0.856667	0.554677
Authencity	0.876	0.924	0.802
Body Image	0.924	0.942	0.729
Self-Esteem	0.864	0.941	0.617

Validity is the ability to represent the construct projected to be measured under a set of items in terms of utility, interpretability and accuracy. Although there are many types of validity to assess, it will be only checked convergent validity and discriminant validity due to the purposes of this analysis. The model convergent validity is the magnitude to which the constructs can explain its items variance and it can be measured by Average Variance Extracted (AVE) method (Urbach & Ahlemann, 2010). The discriminant validity evaluates the extent to which a construct can differentiate itself from the other

constructs. It can be evaluated by the method Fornell-Larcker Criterion which suggests the square roots of AVEs to be greater than the correlation between any two constructs existent in the model (Fornell & Larcker, 1981).

As presented in table 4.1., the values of AVE for each construct are ranged from 0.555 to 0.729. Since all values are above the minimum threshold of 0.50. every construct explains more than half of the variance observed in its items. Therefore, all constructs present good convergent validity (Hair et al., 2019; Urbach & Ahlemann, 2010).

According to the table 4.2., it is verified all square roots of AVEs (values in bold) are greater than the correlation between any two constructs existent in the model except between Trustworthiness and Expertise. In this specific case, those constructs have correlation of 0.763 which is greater than the square root of AVE of Trustworthiness of 0.745. Subsequently, the discriminant validity was verified for all constructs, expect for Trustworthiness. However, since Trustworthiness presents good internal consistency, convergent validity and discriminant validity with all constructs expect with Expertise due to a small difference of 0.18, it was decided to maintain this construct.

Table 4.2 – Correlation between constructs and square roots of AVE of constructs

Construct	Attractiveness	Expertise	Trustworthiness	SelfEsteem	BodyImage	Authenticity
Attractiveness	**0.761**					
Expertise	0.625*	**0.802**				
Trustworthiness	0.657*	0.763*	**0.745**			
SelfEsteem	-0.022	0.035	0.062	**0.786**		
BodyImage	0.152*	0.097	0.150*	0.499*	**0.854**	
Authenticity	0.501*	0.729*	0.659*	0.124	0.196*	**0.895**

Note: * $p < 0.05$

Regarding the binary construct Intention, its reliability is tested by using Kuder-Richardson Formula 20 (KR-20) which is a special case of Cronbanch's Alpha coefficient for constructs composed by dichotomous items. As result, KR-20's Intention is 0.517 which is above the minimum threshold of 0.50. therefore, it has a good internal consistency reliability.

In conclusion, the results obtained from the measurement items demonstrate that not only have the constructs a good internal consistency, but also convergence validation and discriminant validation.

4.2. DESCRIPTIVE STATISTICS

Firstly, descriptive statistics of the variables were calculated in order to understand participants' socio-demographic characteristics, perceptions on the fitness influencer and their own self-esteem and body image after being exposed to the fitness post. In this study, the sample size is 231 respondents that use Instagram actively and follow influencers.

Table 4.3 – Type of fitness post exposed to participants

Fitness Goal Post	Filters Post	Frequency	Percent
Lose Weight	No Filters	47	20,35%
	Filters	74	32,03%
Muscle Gain	No Filters	66	28,57%
	Filters	44	19,05%

The fitness posts were assigned randomly to each participant. In total, 47 participants were exposed to lose weight fitness post without filters meanwhile 74 were exposed to lose weight were exposed to lose weight fitness post with filters. On the other hand, 66 respondents were exposed to the muscle gain fitness post without filters and 44 were exposed to the muscle gain with filters.

Table 4.4 – Socio-demographic characteristics of the participants

Variable	Category	Frequency	Percent
Gender	Male	85	36,8%
	Female	146	63,2%
Age	[under 18]	3	1,3%
	[18-24]	121	52,4%
	[25-34]	46	19,9%
	[35-44]	14	6,1%
	[45-54]	23	10%
	[55-64]	24	10,4%
Education Level	Less than a high school diploma	12	5,19%
	High school degree	56	24,2%
	Bachelor degree	97	42%
	Master or Postgraduate degree	61	26,4%
	Doctorate degree	5	2,2%
Occupation	Student	110	47,6%
	Employed	113	48,9%
	Unemployed	7	3%
	Retired	1	0,4%

Regarding participants' socio-demographic characteristics, 63.2% of the respondents are female and 36.8% are male. Most respondents are young people from generation Z, aged between 18 and 24 years old with (52,4%) followed by the second age group between 25 and 34 years old (19.9%). 6,1% of the participants were between 35 and 44 years old, 10% were between 45 and 54 years and 10,4% were between 55 and 64 years old. Only 1,3% of the sample is under 18 years of age.

In terms of participants' occupation, 48.9% of the participants are employed, 47.6% are students, 3% are unemployed and 0.4% are retired. In terms of their highest level of education they have completed, the majority have a Bachelor's degree (42%), a Master's or Postgraduate degree (26.4%) and a High school degree (24,2%). The rest of the participants have less than a high school diploma (5,19%) or have a Doctorate degree (2,2%).

Most respondents of this sample are from Portugal (60,6%), followed by Austria (12,6%), Germany (4,8%), Czech Republic (2,6%), France (2,2%), the United Kingdom (1,7%), Italy, Spain (1,3%), Greece (0,9%), Mexico (0,9%), Luxembourg (0.9%), Netherlands (0.9%), Russia (0,9%), Slovakia (0,9%), Switerzland (0,9%) and the United States of America (0,9%). The rest of the sample were from Angola, Armenia, Australia, Azerbaijan, Belarus Bosnia and Herzegovina, Denmark, Hungary, India, Ireland, Japan, Kazakhstan, Lithuania and Turkey (6,1%).

Regarding participants' main fitness goal, 36,8% of the respondents have muscle gain fitness goal, 13,4% have weight loss fitness goal and 26% have both fitness goals. The remaining participants indicated to not have any fitness goal currently (23,8%).

Table 4.5 – Social media interactions with the fitness post

Variable	Category	Frequency	Percent
Like	Yes	56	24,2%
	No	175	75,8%
Comment	Yes	13	5,6%
	No	218	94,4%
Share	Yes	13	5,6%
	No	218	94,4%
Total	Yes	82	11,8%
	No	611	88,2%

After being exposed to a fitness influencer post on Instagram randomly, most participants wouldn't put a like on it (75,8%), neither comment on it (94,4%) it or share it (94,4%). On the other hand, 24,2% of the respondents would put like on it, 5,6% would comment it and 5,6% would share it. To check the

engagement rate for the posts, it is calculated by diving the total number of post interactions by the total reach multiplied by 100 (Engagement Rate = Total Number of Interactions / Reach of all actions * 100). In total, the engagement rate of the fitness posts was 11,8% in average which is considered to be high because the average influencer engagement rate on Instagram influencers' posts was 1,42% in 2021 (Feehan, 2022).

Afterwards, the descriptive analysis was performed for the constructs under study. Considering the measurement scale used and the results of constructs is the average of all items that compose them, the higher the average value, the more positive is the participant's perception in SMI's credibility and authenticity as well as in own self-esteem and body image. In the following table below, it is presented the respective means and standard deviations for each construct.

Table 4.6 – Descriptive statistics of constructs

Construct	N	Minimum	Maximum	Mean	Std. Deviation
Attractiveness	231	1	7	3,63	1,32
Expertise	231	1	7	3,93	1,41
Trustworthiness	231	1	7	3,29	1,25
SelfEsteem	231	2,4	6.9	4,94	1,07
BodyImage	231	1,17	7	4,43	1,17
Authenticity	231	1	7	4,55	1,42

The data analysis revealed that participants have a relatively positive evaluation of the social media influencer's authenticity and expertise. Additionally, they do not consider the fitness influencer much trustworthy and attractive. Moreover, the results showed that respondents have a good self-esteem and body image about themselves.

Lastly, to measure the dependent variable under study, it was found that the majority of the participants exposed to the fitness posts (85,7%) do not have behavioural intention towards fitness goals, meanwhile 14,3% of them found it the exposure to have impact on their behavioural intention towards fitness goals.

4.3. DIFFERENTIAL AND CORRELATION ANALYSIS

According to the sociodemographic characteristics of the participants, it was proceeded a comparative analysis of the results. With regards to their gender, country and level education, analysis showed that there were no significant differences on consumers' behavior intention ($p > .05$). On the other hand,

the analysis identified significant differences on consumers' behavior intention depending on the consumers' occupation [χ^2 (3) = 10.056, p < 0.018] and on age [χ^2 (5) = 11.649, p < 0.040], exhibiting the highest positive value for students (M = 0.218) and among 18 and 24 years old respondents (M = 0.206).

Subsequently, correlation analysis of the constructs will be conducted to determine the association between the constructs and its respective intensity and direction using the Pearson Correlation coefficient. As reference to Dancey and Reidy (2011), the strength of the Pearson's correlation coefficients was determined: Above 0.9 indicates a perfect correlation, between 0.9 and 0.7 is a strong correlation, between 0.69 and 0.4 indicates a moderate correlation, between 0.39 and 0.1 is a weak correlation, and 0 no correlation. It is possible to verify a significantly strong positive correlation between expertise and attractiveness (r = 0.763, p < 0.001), expertise and trustworthiness (r = 0.763, p < 0.001), expertise and authenticity (r = 0.729, p < 0.001). As moderate correlation, it was identified between attractiveness and trustworthiness (r = 0.657, p < 0.001), attractiveness and authenticity (r = 0.501, p < 0.001), trustworthiness and authenticity (r = 0.659, p < 0.001), and body image and self-esteem (r = 0.499, p < 0.001).

Additionally, the differential analysis was performed according to the type of interactions with fitness post, namely, like, comment and share and the consumers' main fitness goal. There is a significant association between like and consumers' behavior intention [χ^2 (3) = 10.056, p < 0.018]. Based on the odds ratio, respondents who put like on the post are 1.57 times more likely to have behavioral intention toward fitness goal compared to those who did not put like on it. On the other hand, there is no significant association between other types of interaction and consumers' behavior intention, neither between consumers' main fitness goal nor consumers' behavior intention (p > 0.05).

Lastly, it was checked if there was difference on consumers' behavior intention based on the fitness goal post exposed to the consumer, either Muscle Gain fitness post or Weight Loss fitness post, and the use of filters. As result, there is no evidence of significant differences on intention depending on the fitness goal post neither on the use of filters (p > 0.05).

4.4. BINARY LOGISTIC REGRESSIONS

To test the hypothesis under study, binary logistic regressions were used since the dependent variable is a binary dichotomous outcome data which has a binomial distribution.

Table 4.7 – Binary logistic regression

Predictors	β	S.E.	Sig.	Exp (B)
Attractiveness	0.105	0.203	0.604	1.111
Expertise	0.489	0.263	0.063	1,630
Trustworthiness	0.015	0.255	0.953	1.015
SelfEsteem	-0.265	0.237	0.265	0.768
BodyImage	0.104	0.223	0.641	1,109
Authenticity	0.536	0.270	0.047	1,709
Constant	-6.343	1.462	0.000	0.002

Firstly, it was considered pertinent to investigate the influence of SMI's attractiveness, expertise, trustworthiness and authenticity and also consumers' body image and self-esteem perception as factors within this set, to ascertain which ones have the most impact on consumers' behavioral intention towards fitness goals. In addition to the table 4.7., there is evidence the logit model with 6 predictors is statistically significant [χ^2 (6) = 39.492, $p < 0.001$], 28.1% of the variance of consumers' intention towards fitness goals (Nagelkerke $R^2 = 0.281$) is explained by predictors and it correctly classified 85.7% of cases. Furthermore, it can be determined that expertise ($\beta = 0.489$, $p = 0.063$) and authenticity ($\beta = 0.536$, $p = 0.047$) are the only factors with a significant positive impact on consumer intention towards fitness goal, when the constructs are studied together .

Table 4.8 – Individual impact of predictors of consumer intention

Predictors	β	Sig.	SE	Exp (B)
Attractiveness	0.573	<0.001	0.188	0.167
Expertise	0.891	<0.001	0.176	2.438
Trustworthiness	0.739	<0.001	0.167	2.094
SelfEsteem	-0.053	0.765	0.176	0.949
BodyImage	0.159	0.332	0.776	1.172
Authenticity	0.918	<0.001	0.193	2.505

Taking in account only two of the factors have an impact on consumers' intention when studied together, further analysis was done in order to determine if individually, each factor influence consumers' intention towards fitness goals (**H1** to **H6**). As result, all models are statistically significant and that perceived attractiveness ($\beta = 0.573$, $p < 0.001$), expertise ($\beta = 0.891$, $p < 0.001$), trustworthiness ($\beta = 0.739$, $p < 0.001$) and authenticity ($\beta = 0.918$, $p < 0.001$) have a significant positive effect on consumers' behavioral intention towards fitness goal, as can be observed in Table 4.8. Therefore, **H1**, **H2**, **H3** and **H4** are supported. On the other hand, there is no significant evidence that

consumers' self-esteem (β = -0.053, p = 0.765) and body image (β = 0.159, p = 0.332) have influence on consumer's' behavioral intention towards fitness goal, meaning **H5** and **H6** are not supported.

Regarding model improvement, expertise is the factor that most contributes for the variance of consumer's intention individually, with an explained variance of 24.2% (Nagelkerke R^2 = 0.242), followed closely by authenticity explaining 22.4% of the total variance individually (Nagelkerke R^2 = 0.224), and then trustworthiness with an explained variance of 16.7% individually (Nagelkerke R^2 = 0.167). The factor that contributes significantly the least for the variance of consumer's intention is attractiveness and it has an explained variance of 13.3% individually (Nagelkerke R^2 = 0.133).

4.4.1. Moderation analysis

Moderation analysis will be conducted to test for the influence of Filters variable, on the relationship between Self-Esteem and Intention and between Body Image and Intention. In this way, this moderation test allows to understand whether using filters in influencers' picture post or not have a significant effect on the factors Self-Esteem and Body Image.

In addition to the table 4.9., the logit model with 9 predictors significantly predicts consumers' intention towards fitness goals [χ^2 (9) = 39,842, p < 0.001], 28.3% of the variance of consumers' intention (Nagelkerke R^2 = 0.283) is explained by predictors and it correctly classified 86.1% of cases. As shown in table 4.9., the model shows no significant interaction between Self-Esteem and Intention (β = 0.032, p = 0.948) and between Body Image and Intention (β = -0.238, p = 0.588). Thus, the use of filters is not considered a moderator of the factors Self-Esteem and Body Image. Therefore, **H7** and **H8** are not supported.

Table 4.9 – Binary logistic regression with moderator *Filters*

Predictors	β	S.E.	Sig.	Exp (B)
Attractiveness	0.109	0.206	0.598	1.115
Expertise	0.478	0.265	0.072	1.612
Trustworthiness	0.012	0.258	0.962	1.012
SelfEsteem	-0.289	0.320	0.366	0.749
BodyImage	0.214	0.303	0.479	1.239
Authenticity	0.565	0.276	0.041	1.759
Filters (1)	0.864	2,361	0.715	2.371
Int_FSE	0.032	0.481	0.948	1.032
Int_FBI	-0.238	0.440	0.588	0.788
Constant	-6.797	1.793	> 0.001	0.001

Since it was used different pictures in the post for each gender to have a fitness influencer from the same gender as the consumer, it is important to explore the moderation of Gender variable on the relationship between all factors and the dependent variable Intention.

In addition to the table 4.10 the logit model significantly predicts consumers' intention towards fitness goals [χ^2 (13) = 48.854, p < 0.001], 34.1% of the variance of consumers' intention (Nagelkerke R^2 = 0.283) is explained by predictors and it correctly classified 87% of cases. According to table 4.10, gender is a significant moderator for the relation between expertise and intention (β = -1.346, p = 0.043) and between trustworthiness and intention (β = 1.430, p < 0.001). With regards to the left relations in this model, gender is not considered a moderator. Moreover, there is no stastistical evidence that gender significantly impacts directly on intention (β = 2.944, p = 407).

Table 4.10 – Binary logistic regression with moderator *Gender*

Predictors	**β**	**S.E.**	**Sig.**	**Exp (B)**
Attractiviness	0.195	0.424	0.646	1.216
Expertise	1,451	0.588	0.014	4.267
Trustworthiness	-0.884	0.525	0.093	0.413
SelfEsteem	-0.158	0.467	0.734	0.854
BodyImage	0.077	0.423	0.856	1.080
Authenticity	0.566	0.560	0.312	1.762
Gender (1)	2.944	3,551	0.407	18.992
IntGA	-0.142	0.501	0.776	0.867
IntGE	-1.346	0.664	0.043	0.260
IntGT	1.430	0.626	0.022	4.181
IntGS	-0.268	0.559	0.632	0.765
IntGBI	0.096	0.513	0.852	1.101
IntGAut	-0.071	0.647	0.913	0.932
Constant	-8.602	3.036	0.005	0.000

The text of the post differs according to the fitness goal, either muscle gain or weight loss. Furthermore, the consumer having the same fitness goal as the post exposed may have influence. Therefore, it is essential to investigate the moderation effect of Musclegain and Weightloss on the relation between influencer's perception factors, namely, Attractiveness, Expertise, Trustworthiness and Authenticity, and consumers' behavioral intention towards fitness goal, namely, Intention. To be able to conduct this analysis, the sample was split in two: consumers exposed to a muscle gain fitness post and consumers exposed to a loss weight fitness post.

Regarding muscle gain fitness post, the model predicts significatly intention [χ^2 (11) = 34.380. p < 0.001], 46.5% of the variance of consumers' intention (Nagelkerke R^2 = 0.465) is explained by

predictors and it correctly classified 89.1% of cases. According to the table 4.11, the model show significant interaction only between MuscleGain and Trustworthiness (β = -3.625 , p = 0.099). On the other hand, there is no significant interaction between MuscleGain and Expertise (β = -0.188, p = 0.897), MuscleGain and Attractiviness (β = 4.091, p < .107), MuscleGain and Authenticity (β = -0.640. p = 0.676). Furthermore, there is no statistical evidence that MuscleGain influences directly on Intention (β = 2.758, p = 0.722).

Table 4.11 – Binary logistic regression with moderator *MuscleGain*

Predictors	**β**	**S.E.**	**Sig.**	**Exp (B)**
Intercept	-8.623	7.509	0.251	0.000
Attractiveness	-3.853	2.538	0.129	0.021
Expertise	0.256	1.388	0.854	1.292
Trustworthiness	3.566	2.187	0.103	35.366
SelfEsteem	-0.714	0.405	0.077	0.490
BodyImage	0.072	0.379	0.848	1.075
Authenticity	1.846	1.436	0.199	6.334
Musclegain (1)	2.758	7.750	0.722	15.763
MA	4.091	2.542	0.107	59.821
ME	-0.188	1.451	0.897	0.829
MT	-3.625	2.203	0.099	0.027
MAut	-0.640	1.529	0.676	0.527

Regarind table 4.12, the model related to weight loss post predicts significatly intention [χ^2 (11) = 23.143, p = 0.017], 32.1% of the variance of consumers' intention (Nagelkerke R^2 = 0.321) is explained by predictors and it correctly classified 86.8% of cases. WeightLoss is not a moderator variable since there are no significant interactions between WeightLoss and Attractiveness (β = -0.565, p = 0.422), WeightLoss and Expertise (β = -0.851, p = 0.358), WeightLoss and Trustworthiness (β = 1.471, p = 0.108), WeightLoss and Authenticity (β = -0.762, p = 0.339). Moreover, WeightLoss does not have a significant impact on Intention (β = 4.458, p = 0.193).

Table 4.12 – Binary logistic regression with moderator *WeightLoss*

Predictors	**β**	**S.E.**	**Sig.**	**Exp (B)**
Intercept	-9.497	3.156	0.003	0.000
Attractiveness	0.420	0.377	0.266	1.522
Expertise	1.280	0.550	0.020	3.597
Trustworthiness	-0.871	0.529	0.100	0.419
SelfEsteem	0.098	0.396	0.804	1.103
BodyImage	0.105	0.371	0.778	1.110
Authenticity	0.472	0.534	0.377	1.603

Weightloss(1)	4.458	3.424	0.193	86.280
WA	-0.565	0.704	0.422	0.568
WE	-0.851	0.927	0.358	0.427
WT	1.471	0.916	0.108	4.355
WAut	-0.762	0.798	0.339	0.467

5. DISCUSSION

This research aims to determine how fitness influencers can be successful heath communicators on social media platforms and which factors influence consumers' intention towards fitness goals. Therefore, in the previous chapter, it was conducted the data analysis to answer the research questions and to test the proposed hypothesis under this study. Now, it will be discussed the results of data analysis and its valuable findings.

Firstly, our findings showed that, regarding sociodemographic characteristics, the participants who are students and between 18 and 24 years old have a higher behavioral intention towards fitness goal. Most of the respondents have at least one fitness goal currently, either muscle gain or weight loss. Despite the fact of respondents having a positive perception on influencer's authenticity and expertise, the overall consumer behavioral intention is not high (P=0.143).

Although most participants would not interact with the fitness post, the engagement rate of 11.8% is still way higher than the average engagement rate of 4% on Instagram posts. Therefore, it means there is a big interaction between consumers and fitness posts from influencers. Furthermore, the most common interaction type is to put like on the post and it was possible to conclude that there is association between like and intention. Additionally, the people who interacts fitness post with likes are 1.57 times more likely to have behavioral intention toward fitness goals.

The correlation analysis under constructs allowed to find significant positive correlation between all influencers' perception constructs, specifically, attractiveness, expertise, trustworthiness and authenticity. Furthermore, the consumers' perception about themselves on self-image and body image is significantly positive.

Finally, the validation of the research hypothesis previously formulated is performed. The first 4 hypothesis aims to study the effect of perceived influencer's credibility and authenticity on consumer's behavioral intentions after being exposed to a fitness post. Trustworthiness, expertise, attractiveness and authenticity have significant positive impact on consumer's intention towards fitness goal. Therefore, **H1**, **H2**, **H3** and **H4** are supported. Extensive research on influencers' expertise shows that expert influencers in the fitness field stimulate the engagement with their followers while forming an audience based on shared interests and make the community feel more motivated to be adopt a healthier lifestyle. Furthermore, consumers who perceive social media fitness influencers as attractive, experts and trustworthy can be influenced by them on intentions to physical activity, so it confirms the high impact of source credibility for social media fitness influencers (Djafarova & Rushworth, 2017;

Durau et al., 2022). This research further highlights the positive impact of social media fitness influencers have on their audience (Thomas et al., 2020).

The study shows the hypothesis 4 is supported, since there is a positive correlation between perceived authenticity and consumers' behavioral intention towards fitness goals. There are some studies confirming social media influencers who are perceived as authentic have a higher level of influence over others, so they are able to create a stronger relationship with their audience (Aziz et al., 2013). As the novelty of this research, there is little literature that explores the impact of authenticity on consumer's behavioral intention in the fitness context, either alone or along with the other variables (Raggatt et al., 2018).

However, self-image and body image don't have a significant negative effect on consumer's behavioral intentions towards fitness goals. Thus, **H5** and **H6** are not supported. As contradictory, a study has found a positive relationship between physical activity and self-esteem in adults (Opdenacker et al., 2009).

To investigate the moderating effects of use of filters in fitness posts and also gender in the conceptual model, two different groups were analyzed (male vs female participants; filtered vs unfiltered posts).

Although the variable gender has no significant direct effect on consumer's behavioral intentions of women and men, it is a moderator variable with impact on Expertise and Trustworthiness. A man exposed to a fitness post that perceived the SMI trustful has 4.181 times the odds of having behavioral intention towards fitness goal as compared to woman that perceived the SMI expert. On other hand, a man that finds a SMI expert is 0.260 less likely to have behavioral intention towards fitness goal comparing to a woman.

As last finding, there is no moderation effect between self -esteem and the use of filters as well as between body image and the use of filters on the consumers' behavioral intention. Therefore, **H7** and **H8** are not supported. Previous researches have shown exposure to be thin, fit and good-looking fitness influencers might have both positive and negative health effects (Bates et al., 2006). Negative effects can lead to comparisons with well-trained influencers that result to dissatisfaction with one's own shape. Positive effects can be when the social media influencers inspire followers to pursue healthy lifestyle behaviors by imitating them (Simpson & Mazzeo, 2017).

6. CONCLUSION

Fitness community on social media presents potential for conflicts between positive and negative effects on users, in terms of media usage and well-being. Positive influences include motivation to adopt a healthier lifestyle, commitment to achieve fitness goals and extending knowledge on health topic. On the other hand, negative influence can be higher comparison body, leading to problematic body idealizations, higher psychological stress and body dissatisfaction. (Stollfuß, 2020). Therefore, fitness social media influencers play an important role in the community and they can potentially be motivators to achieve users' fitness goals.

To understand better the impact of fitness Instagram influencers, this research was conducted, in which was analyzed how the social media influencer's attractiveness, expertise, trustworthiness and authenticity and follower's self-esteem and body image influence the followers' intention and motivation towards fitness goals and whether the use of filters in fitness posts affects these relationships. Furthermore, it was investigated if followers' gender has a moderation effect in the previous mentioned factors influencing the followers' intention towards fitness goals. The findings from our study contribute to our understanding of how followers perceive fitness social media influencers and their own self-esteem and body image and which factors lead to higher followers' intention to achieve their fitness goals. Therefore, this study extends research on source credibility, authenticity, body image, self-esteem and the use of filters in the context of fitness social media influencers.

In summary, it was found trustworthy, expert, authentic and attractive influencers might be effective health motivators in their social media platforms for their community. Moreover, they can contribute to the achievement of users' fitness goals, such as, increasing physical activity and following regime diet. Additionally, among the source credibility variables, the influencers' expertise appeared to be particularly important for respondents in terms of behavioral intention toward fitness goals. Extending previous research findings, this study confirms the high relevance of trustworthiness, expertise, attractiveness and authenticity for fitness social media influencers. Therefore, this study further highlights the positive influences that social media fitness influencers can have on their followers. Regarding followers' body image and self-esteem and the use of filters in fitness SMI's posts, there is no evidence that these factors impact significantly on their motivation to achieve the fitness goals. In terms of moderating effect of gender in Expertise and Trustworthy, there are different effects on intentions towards fitness goals. Men have higher behavioral intention towards fitness goals than woman when the SMI is perceived as trustful, while women have higher intention when the SMI is perceived as expert than men.

In conclusion, social media fitness influencers can impact positively the influencers' intentions towards fitness goals, meaning they can be highly influential in the health and fitness community.

7. LIMITATIONS AND FUTURE RESEARCH

During the realization of this research, it was possible to detect some limitations. Firstly, the data collection process arises some limitations. The sample has relatively a small size with limited undiversified geographical framework, since almost all participants are users residing in Europe and more than half of them are from Portugal. Therefore, there may arise some restrictions in the interpretation and generalization of our findings to other studies or countries since these results are the consequence of specific European population characteristics and opinions. As addition, a significant limitation is the use of questionnaire as a cross-sectional data technique. Although cross-sectional is a good method to collect the necessary data to confirm studies hypotheses, participants' answers correspond to their perceptions just in a specific time period.

To extend this research and overcome the limitations previously stated, future researchers should adopt a longitudinal research design instead of cross-sectional in order to confirm and explain the relationships between the constructs of the conceptual model over time. Additionally, it is recommended replicating this study in different countries to check if results vary according to the audience's country.

Finally, since fitness SMIs' content and endorsements vary across different social media platforms, the perceptions and attitudes towards SMIs and their content can differentiate on the platform they use, so future studies could replicate this study for others social media platforms.

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APPENDIX A - ADMINISTERED QUESTIONNAIRE

Followers' behaviour towards Fitness Goals on Instagram

Dear participant,

As part of my master thesis, the aim of this survey is to understand the followers' behaviour towards fitness goals on Instagram platform and it has an estimated duration of only 5 minutes. All information you provide to us will be processed completely anonymously and it will be used in aggregated form only for academic purposes.

Informed Consent Form: I declare that I agree to participate in this research. I declare that I was informed that my participation in this study is voluntary and that I can leave this survey at any time without penalty, and all data is confidential.

- ○ I agree to participate
- ○ I do not agree to participate

Q1 What is your gender?

- ○ Male
- ○ Female

Q2 Do you have an active Instagram account?

- ○ Yes
- ○ No

Q3 Do you follow any influencer on Instagram?

- ○ Yes
- ○ No

Display This Question with fitness post without use of filters:

If What is your gender? = Female

One of the most common fitness goals of the people who decide to start to work out is their desire to build muscles. This Instagram fitness influencer produces content with regards to muscle building in order to sculpt the body, boost the confidence and look better. This usually involves lifting weights, long sessions and an increased intake of proteins.

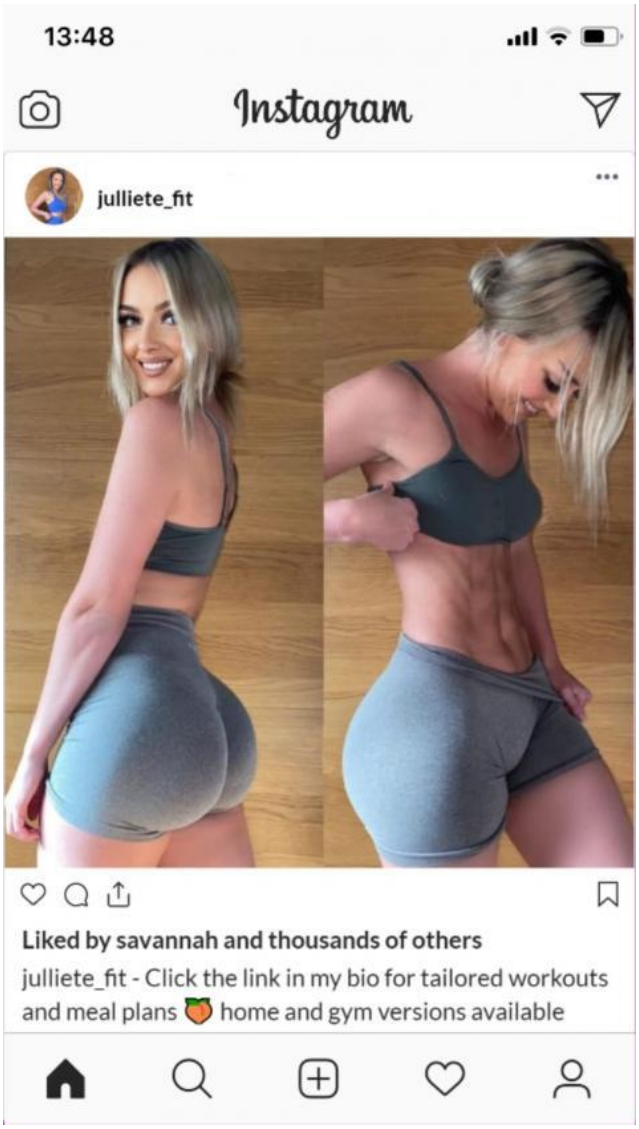
Look carefully to the Instagram post by a fitness influencer and please answer the follow questions.

Display This Question with fitness post with use of filters:

If What is your gender? = Female

One of the most common fitness goals of the people who decide to start to work out is their desire to build muscles. This Instagram fitness influencer produces content with regards to muscle building in order to sculpt the body, boost the confidence and look better. This usually involves lifting weights, long sessions and an increased intake of proteins.

Look carefully to the Instagram post by a fitness influencer and please answer the follow questions.



Display This Question with fitness post without use of filters:

If What is your gender? = Female

The most common fitness goal of the people who decide to start to work out is their desire to lose weight in order to lose fat and tone their bodies. This Instagram fitness influencer produces content with regards to weight loss in order to look and feel better. In addition to exercising, it is also recommended to modify the eating habits and reduce caloric intake.

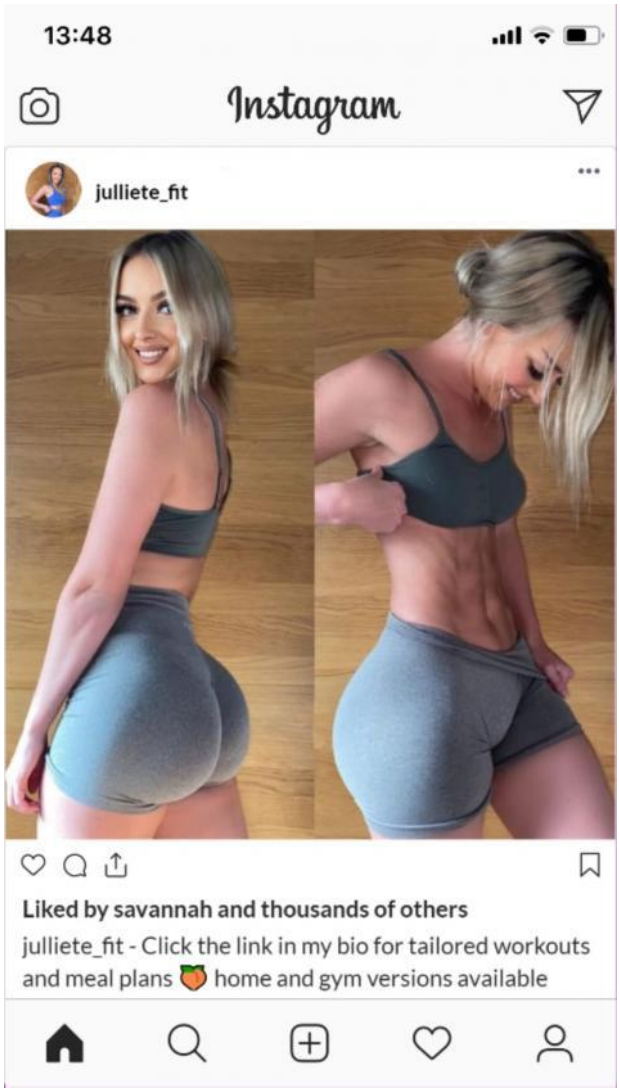
Look carefully to the Instagram post by a fitness influencer and please answer the follow questions.

Display This Question with fitness post with use of filters:

If What is your gender? = Female

The most common fitness goal of the people who decide to start to work out is their desire to lose weight in order to lose fat and tone their bodies. This Instagram fitness influencer produces content with regards to weight loss in order to look and feel better. In addition to exercising, it is also recommended to modify the eating habits and reduce caloric intake.

Look carefully to the Instagram post by a fitness influencer and please answer the follow questions.



Display This Question with fitness post with use of filters:

If What is your gender? = Male

The most common fitness goal of the people who decide to start to work out is their desire to lose weight in order to lose fat and tone their bodies. This Instagram fitness influencer produces content with regards to weight loss in order to look and feel better. In addition to exercising, it is also recommended to modify the eating habits and reduce caloric intake. Look carefully to the Instagram post by a fitness Instagram influencer and please answer the follow questions.

Display This Question with fitness post without use of filters:

If What is your gender? = Male

The most common fitness goal of the people who decide to start to work out is their desire to lose weight in order to lose fat and tone their bodies. This Instagram fitness influencer produces content with regards to weight loss in order to look and feel better. In addition to exercising, it is also recommended to modify the eating habits and reduce caloric intake.

Look carefully to the Instagram post by a fitness Instagram influencer and please answer the follow questions.

Display This Question with fitness post without use of filters:

If What is your gender? = Male

One of the most common fitness goals of the people who decide to start to work out is their desire to build muscles. This Instagram fitness influencer produces content with regards to muscle building in order to sculpt the body, boost the confidence and look better. This usually involves lifting weights, long sessions and an increased intake of proteins.

Look carefully to the Instagram post by a fitness Instagram influencer and please answer the follow questions.

Display This Question with fitness post with use of filters:

If What is your gender? = Male

One of the most common fitness goals of the people who decide to start to work out is their desire to build muscles. This Instagram fitness influencer produces content with regards to muscle building in order to sculpt the body, boost the confidence and look better. This usually involves lifting weights, long sessions and an increased intake of proteins.

Look carefully to the Instagram post by a fitness Instagram influencer and please answer the follow questions.

Q4 Would you put "like" in the post?

- ○ Yes
- ○ No

Q5 Would you comment the post?

- ○ Yes
- ○ No

Q6 Would you share the post?

- ○ Yes
- ○ No

Q7 Please rate the following statements in terms of how much you agree.

	1 - Strongly disagree	2	3	4	5	6	7 - Strongly agree
Attractive	○	○	○	○	○	○	○
Classy	○	○	○	○	○	○	○
Beautiful	○	○	○	○	○	○	○
Elegant	○	○	○	○	○	○	○
Sexy	○	○	○	○	○	○	○
Expert	○	○	○	○	○	○	○
Experienced	○	○	○	○	○	○	○
Knowledgeable	○	○	○	○	○	○	○
Qualified	○	○	○	○	○	○	○
Skilled	○	○	○	○	○	○	○
Dependable	○	○	○	○	○	○	○
Honest	○	○	○	○	○	○	○
Reliable	○	○	○	○	○	○	○
Sincere	○	○	○	○	○	○	○
Trustworthy	○	○	○	○	○	○	○

Q8 Please rate the following sentences in terms of how much you agree or disagree.

	1 - Strongly disagree	2	3	4	5	6	7 - Strongly agree
This influencer has a true passion for his or her field	○	○	○	○	○	○	○
This influencer wants to do his or her best at providing his/her content	○	○	○	○	○	○	○
This influencer is devoted to what s/he does on Instagram	○	○	○	○	○	○	○

Q9 Please indicate how much satisfied or dissatisfied that best describes how you feel right now at this very moment with regards to the following statements.

	1 - Extremely dissatisfied	2	3	4	5	6	7 - Extremely satisfied
Right now I feel _____ with my physical appearance	○	○	○	○	○	○	○
Right now I feel _____ with my body size and shape	○	○	○	○	○	○	○
Right now I feel _____ with my weight	○	○	○	○	○	○	○
Right now I feel _____ with my physical attractiveness	○	○	○	○	○	○	○
Right now I feel _____ about my looks than I usually feel	○	○	○	○	○	○	○

Right now I feel _____ about my looks comparing to the average person looks	

Q10 Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

	1 - Strongly disagree	2	3	4	5	6	7 - Strongly agree
On the whole, I am satisfied with myself.	○	○	○	○	○	○	○
At times I think I am no good at all.	○	○	○	○	○	○	○
I feel that I have a number of good qualities.	○	○	○	○	○	○	○
I am able to do things as well as most other people.	○	○	○	○	○	○	○
I feel I do not have much to be proud of.	○	○	○	○	○	○	○
I certainly feel useless at times.	○	○	○	○	○	○	○

I feel that I'm a person of worth, at least on an equal plane with others.	○	○	○	○	○	○	○
I wish I could have more respect for myself.	○	○	○	○	○	○	○
All in all, I am inclined to feel that I am a failure.	○	○	○	○	○	○	○
I take a positive attitude toward myself.	○	○	○	○	○	○	○

Q11 Please **select one or more sentences** you agree with regards to the influencer of the previous post.

- [ ] This fitness post influences me towards exercising
- [ ] The fitness post influences me towards diet
- [ ] The fitness post influences me achieving the fitness goal
- [ ] None

Q12 What is your main fitness goal currently?

- ○ Muscle gain
- ○ Weight loss
- ○ Both options
- ○ None of the above options

Finally, we would like to ask you to answer some socio-demographic questions in order to understand the different behaviors of the population.

Q13 How old are you?

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

Q14 Where is your home located?

▼ Afghanistan ... Zimbabwe (1357)

Q15 What is your occupation?

- ○ Student
- ○ Employed
- ○ Unemployed
- ○ Retired

Q16 What is the highest level of education you have completed?

- ○ Less than a high school diploma
- ○ High school degree
- ○ Bachelor degree
- ○ Master or Postgraduate degree
- ○ Doctorate degree

APPENDIX B – ETHICS COMMITTEE REPORT

This is to certify that
Project No.: **DDMKT2023-11-202243**
Project Title: **The impact of Instagram fitness influencers on followers' fitness goals**
Principal Researcher: **Cristina Martins de Freitas**

according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center this project was considered to meet the requirements of the NOVA IMS Internal Review Board, being considered **APPROVED** on 11/20/2023.

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

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

Lisbon, 11/20/2023

NOVA IMS Ethics Committee
ethicscommittee@novaims.unl.pt