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# I am with you: a netnographic analysis of the Instagram opinion leaders on eating behavior change

Inga Saboia<sup>a,b,\*</sup>, Ana Margarida Pisco Almeida<sup>b</sup>, Pedro Sousa<sup>c</sup>, Cláudia Pernencar<sup>d</sup>

<sup>a</sup>UFC Virtual, Federal University of Ceará, Brazil

<sup>b</sup>Department of Communication and Art/DigiMedia University of Aveiro, Portugal

<sup>c</sup>Center for Innovative Care and Health Technology (ciTechCare), IPLeiria; Escola Superior de Saúde (ESSLEI), Instituto Politécnico de Leiria

<sup>d</sup>UNIDCOM/IADE – Universidade Europeia, Portugal

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## Abstract

Currently we are strongly influenced by the changes provided by Web 2.0. The number of users consuming and sharing online information about health and wellbeing is increasing. This is a new scenario and a fertile field to study, in which social networks and eHealth applications are powerful tools to support behavior change. This article explores the influence processes of online opinion leaders, such as health professionals and non-professional, on the food behavioral change of their followers on online social networks. We use a netnography observation method following user profiles on Instagram. Some groups and its characteristics and practices were identified. This paper focuses only on three opinion leaders categories: nutritionists, POLs and healthy lifestyle in Portugal and Brazil. Results show different opinion leaders acting as partners, but with different characteristics and practices.

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\* Corresponding author. Tel.: +351 965074141.

E-mail address: [inga@virtual.ufc.br](mailto:inga@virtual.ufc.br)

## 1. Theoretical framework

The Web 2.0 brought new perspectives of content production and active participation through social networks (1), which can be used in the most diverse areas, including health and wellbeing. 72% of users seek support in the experience of others with the same problem (2), becoming one of the agents in their own treatment (3). Also, they produce informative content influencing the behavior changes of others. Both Patient Opinion Leaders (POL) and health professionals, like nutritionists (4), attract a large number of followers. Despite this scenario, a medical-patient communication gap (5) still exists, as 99% of physician does not use social media to communicate about their health (6). The case of nutritionists needs a particular analysis, because they used social media for guiding the needs of a digitally informed public (4) who want a better quality of life.

Social networks can be understood as a space in which several opinion leaders work, as individuals capable of informally influencing the attitudes or behaviors of others (7). There is little consensus in the literature about these groups (POLs and nutritionists), which are sometimes pointed out as opponents (4) and sometimes as partners (5). There are different opinions related to the role of each. On the nutritionists side, a culture of nutritional science that promotes the "right way to eat" through food planning and control, is rising (8). Also, they defend the superiority of scientific knowledge, differentiating them from the others (9): POLs, ex-obese and other users that identify and increase their emotional support, set norms and expectations, encourage and judge actions (10). Instagram has been one of the bases for this community (11). Another lack of consensus is being pointed on the dynamics of behavior change: some studies reflects only about those who provide support (12) and in others to those who receive it (13).

According to an under-development systematic review, the influence of the relationship between social networks and eating behavior is widely linked to peer influence (14,15) even when it comes to online (16). However, a lack of studies focusing on the social dynamics of opinion leaders was noticed. In fact, we did not find any related study in Portugal. Another important point is "eating behavior" as a quite complex concept. It is the result of a social accumulated experience, reflection and automatism (17), and it is influenced by a series of emotional and external stimulus that lead to compulsive ingestion (18,19). This behavior contributes to the origin of obesity, one of the most epidemic of the 21st century, which affects 24% of the Portuguese population and impacting the National Health System due to several diseases (20). Under this context, an analysis about the current practices of online opinion leaders that influence food behavior change using social networks was conducted. The first step was an identification, categorization and description of the opinion leaders: two categories were initially created - nutritionists and POLs (obese and ex-obese) -, but other categories latter emerged (healthy lifestyle, food diary, chefs, physical educator and health professional). This paper focuses only on three: nutritionists, POLs and healthy lifestyle.

Instagram was elected as it is a popular social network, many timed used in emotional support context, and that can be seen as a tool for monitoring healthy eating. It is fun and socially acceptable by the community, presenting popularity for recipe posting (11).

## 2. Methods

Our study is focused on the analysis of Instagram profiles; after the literature review undertaken, a sampling procedure was conducted in order to allow the observation of relevant and representative profiles. Five different sampling procedures were used:

Table 1. Procedure and results

Google search with the following keywords, in Portuguese: Instagram, food and diet. Links indicating profiles with a larger number of followers	Visualization and analyze all the suggestions provided by 24 previous Instagram profiles (80 suggestions per profile)	Instagram search using "nutri" keyword through two different users accounts	Search with "nutrition" and healthy food books on two online book stores	The first 30 posts and stories of the day of each profile were analyzed following the criteria below
24 visualized Instagram profiles	3840 visualized Instagram profiles in total	200 visualized Instagram profiles	40 visualized Instagram profiles	Selection - 199 Brazilian and 134 Portuguese profiles

The first 30 posts and stories of the day of each profile were analyzed following the criteria below:

- The post contents should be about personal and / or professional experience, not a third-part experience.
- 70% of the posts should be in one of these categories (these principles are summative):
  - Healthy food (a meal with any type of vegetable);
  - Physical exercises a person performing movements or with gym clothes);
  - People that present themselves as digital or social influencers (21,22) (summative with another occupations), a nutritionists or a nutrition student, independent of gender, hobbies or physical activity.

We established the following exclusion criteria for our research:

- Opinion leaders who did not started their practices on social networks and who originate from greater exposure through major media such as Radio, Television or Cinema.
- Pregnant women, puerperal women, children and adolescents, due to their special stage of life.
- Profiles that have more than 30% of their posts (photographs and videos) contained advertising by others, for selling purpose or not producing their own content.
- Profiles that belonged to collective entities or that represented a food style (ex: low carb diet, slimming projects)
- People identified with a psychiatric eating disorder.
- Profile of participants in a bodybuilding competition or any other professional sports.

After analyzing all data, 199 Brazilian and 134 Portuguese profiles were found and grouped: Nutritionists, obeses and ex-obeses, Healthy Lifestyle, Eating, Chefs, Physical educator and Health professional. These typologies were established based on the profile presentation and new categories emerged: eating, chefs, physical educator and health professional. Obese or ex-obese were considered when people stated to have lost more than 10kgs. In this paper only nutritionists, POLs and healthy lifestyle are explored.

A netnography (23–25) observation was conducted following all these profiles during 6 months. It helped us to identify some pertinent characteristics and practices of each one of the groups, as described on the following section.

### 3. Results and Discussion

Four main dimensions were analyzed when exploring the Instagram profiles of nutritionists, POLs and users who have a healthy lifestyle. The first is related to how these opinion leaders present themselves online, (profile photos, username and Instagram tool biography). The second concerns the discourse and format of their posts. The third is associated to relations with other opinion leaders and the fourth is related to the use and dissemination of other social networks and other media, allowing a boarder view of the media ecosystem used.

#### 3.1. Nutritionists

We observed 113 Brazilian nutritionists and 39 Portuguese nutritionists. This group used social networks extensively for a variety of purposes, such as promoting their brand, educating patients, virtually advising, promoting products and services (4). One of the social networks most used by them is Instagram (4), due to its imagery nature, which is very related to the exhibition of lifestyles, namely healthy food. Usually, these professionals present a large audience: e.g., in Brazil, there are many cases of nutritionists with the amounts of followers, as celebrities, and this is with more than 1 million followers<sup>1</sup>. Even in smaller countries like Portugal, these professionals achieved prominence, having more public than some printed magazines.

Many nutritionists who used social network with the objective of building business and their own brand (Tab.02), as reported in Helm & Jones work (4) were founded. Their Instagram public profiles are available to any user, in which they present themselves as nutritionists, adding words “nutri” or “nutritionist” to their own username. They show contacts for schedule an appointment, lecture, and courses through a feature which is called biography in Instagram. Brazilian nutritionists present professional objectives like weight loss, while the Portuguese focus on well-being, health and high-performance sports. This defines two different sets of professional goals.

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<sup>1</sup> Rodrigo Santoro’s profile, an international actor from Brazil, has 260 thousands; Caetano Veloso’s profile, a Brazilian singer, has 762 thousands followers, these profiles were accessed on May, 8, 2018.

There are several Brazilian posts associated to personal professional practices. The work routine is presented, with the nutritionist appearing dressed in a lab coat at their office. Considering patients photos, two main types were observed: boards with lost weight, and montages with before and after nutritional interventions. There are also closed courses, eBooks and lectures promotions on the nutritionist profiles with more followers. These actions are for non-professionals and other nutrition professionals. Some of these profiles offer a distance online course, in which people can purchase a cookbook and receive nutritional advice. This trend was not verified in the Portuguese nutritionists' context: they appear punctually associated to a different associated to a non-health professional profile. that were not health professionals.

Based on Helm & Jones studies (4), we were expecting to observe some distance between nutritionists and their followers; they point out that it is necessary to separate professional and personal contents on social media and Dodds & Chamberlian (9) also refer that these professionals usually promote themselves stating their scientific knowledge. However, an inverse attitude from the nutritionists analyzed in our study revealed to be accessible, as they answer directly to comments and show daily routines. There are many examples of this in both countries with a large number of personal photos and videos (family, physical exercises, beauty treatments, vacations, dressing beach and gym clothes, as well as the recipes confection and their meals made in their own homes). Some intimacy was also observed: nutritionists seem to answer messages and comments using a speech that sounds like a conversation, in which they talk about everyday life, not restricting to food education, although this discourse is addressed to the followers and not to the patients who are considered as a selected group. It is necessary to belong to the patient group to get personalized treatment. In spite of this intimate attitude, whenever possible, these professionals were aimed to be educator, promoting their own practice and knowledge. This situation is common in both countries.

There is an underlying commitment that is perceived through an episode in which a nutritionist posted a picture of herself eating fast food which receives feedback of depreciation and support, with thousands of likes. This act released by a nutritionist is defended by this professional as a way of showing human side, and it reminds us that the Instagram is written as a personal blog, although of the public nature.

Regarding the promotion of third-party products and services, the dissemination of food brands in the profile of Brazilian nutritionists was not observed. This was confirmed in nutritionist videos as they reported that had been warned by their professional council not to promote food brands. However, the same did not happen in Portuguese nutritionists who show videos of received products, with food brands and household items.

We observed the same categories reported by Dodds & Chamberlian (9), with Brazilian nutritionists defending a right way to eat, through the dissemination of nutritional components of foods, and the explanation of some diets. However, two other categories emerged, one of which we will call "motivational", in which one tries to give the power of food control to the follower by associating diet with something more significant, such as a change in life as a whole. At this point, nutritionists talk about life changing in which eating and overweight is only a reflection of choices and lifestyles. Their speech becomes seem like one from a psychologist or coach (Tab. 2). This motivation is not based on fear as Dodds & Chamberlian (9) associated with the nutritional discourse, but with the empowerment of the patient, as the agent to change his own life. As a consequence of this new role of the nutritionist in social networks, there is a second component, which advocates "food without guilt", which it is acceptable to fall into food temptations, but without losing track, return to a balanced diet.

Table 2. Characteristics and practices – Nutritionist, POLs and healthy lifestyle

Characteristics and practices	Nutritionists	POLs	Health lifestyle
Objective with Instagram	Building business	Building business and share their experiences	Building business and share their experiences
Strategy	Inform	Identify	Inspire
Subjects	Personal and Professional, like as diet, lifestyle, exercises and motivational	Personal and Professional, like the stigma due to be obese and motivational by weight loss	Personal and Professional, how much effort is needed to maintain the body
Spoken phrases	"Total transformation"		"It's paid"
	"what is your purpose in life?"		"Focus, strength, faith"
	"Accept yourself and understand yourself"		"Body and soul balance"
	"If you are happy, you make the		"Real food"

	right choices for your body, and your life"		"I share what I live"
Type of speech	Scientific discourse and with intimacy	Intimacy	Portuguese jargon was not identified. Intimacy

Portuguese nutritionists take photos of the environment itself, with significant care with lighting. The Brazilians are very focused on video content, diagrammed arts that link photography with text. The Brazilian also attempt to talk about more controversial subjects.

The association of Instagram as a complementary tool of communication and support to other media was a current practice. In the Portuguese case, nutritionists use the Instagram to promote their participation in television programs, and to create more detailed contents through their blogs and their printed books. In the Brazilian case, there is also a connection with YouTube and Facebook.

Nutritionists use the image of other opinion leaders to promote themselves. In the Brazilian case, there is a particular dilemma: when the patient is famous, like as an artist or an opinion leader, his appointment is posted. In other cases, when an opinion leader who is a non-professional and gives nutritional advice on Instagram, the nutritionists discredit him and try to warn to the risk that this attitude brings. They even state that this person does not have the property to talk about this subject since he does not have academic knowledge. In the Portuguese case, this trend was not verified: instead, some nutritionists are associated with different profiles that were not health professionals.

### 3.2. POLs, obese and ex-obese:

Legatt-Cook & Chamberlian (10) analyzed blogs used as a diary for the weight loss journey, exploring the expression of opinion, feelings, frustrations, failures and its narrative around the goal of weight loss. 47 Brazilian profiles and 16 Portuguese profiles on Instagram were analyzed. These profiles were categorized using characteristics, such as profile photography, photo montages with a before and after weight loss, the lost pounds or the words weight loss on a field of biography. This was observed in both studied countries. In most of the seen these profiles, people are no longer obese and they are reporting their successful post-weight loss experience. This was exactly what Legatt-Cook & Chamberlian (10) predicted: POLs usually speak of their firsthand experience of many shameful situations, countless traumas and failures related to diets, medicines and bariatric surgeries. Feelings and intimacies are shared with the follower, including mentions of things they no longer remember and are now sharing, or that they have never told anyone. It seems to be almost a therapy; they report knowing the pain of what it is to be obese and stigma of this situation. However, the discourse also reverts in a tone of achievement and pride, of something hard-won but worth it.

In this context, it is interesting to note a phenomenon that has been occurring in Brazil: in addition to nutritionists who have sought this network of ex-obese building business and specializing themselves in order to provide services to others. Many, in their own presentation, define themselves as a coach, providing closed groups, weight loss programs and challenges. When this occurs, there is often a set of images of them in offices, in full auditorium lectures, posts with diagrams of images and text, with their customers before and after, emotional testimony about the impact of this service on the path of life.

Challenges are one of the common practices of this community, being strongly encouraged in these profiles. Even more generalized than nutritionists, these users launch proposals to reduce the weight, which, when accepted and made by followers, which can lead to create new habits over a period. These challenges are free, promoted in advance, and with a date set for its beginning. In the Brazilian case, we find an almost professionalization with POLs. They plan various communication actions, such as: the provision of daily health guidelines through posts and newsletters. They create, foster and manage a private group for sharing and support in a Facebook community. They conceive and offer supplementary materials such as planners, cookbooks and measure sheets. There is a case found on one profile of a financial prize for whoever won the challenge. All this work seems to be initially rewarded with engaging a large number of followers, who sometimes also have to indicate their friends to increase leader profile database. Sometimes, the follower also must commit to post and show that he/she is participating, sharing a before and after challenge photo. We can even say that, in many of the profiles seen, the free monthly challenge is used to engage the follower and after offering them more personalized paid programs with special conditions configuring, thus, a remunerated activity.

Diet prescription was not directly observed, although some Brazilian profiles get financed and seem to have

notably motivational and promotional content, with few photos of meals, but many before and after photos as well as photos with followers, physical exercises, lectures, and vacations. Some videos reveal that they do not feel comfortable talking about food for two reasons: the first one is related to a possible warning of an illegal profession practice (only nutritionist can prescribe diet) and the second because they say that the weight loss secret and its maintaining is not on food but the mindset change. This can also be observed on the challenges that only have general health guidelines, suitable to anyone and all situations (such as the elimination of sugar from the diet or alcoholic beverages, 1 workout hour per day, 7 to 8 sleep hours).

However, in the Portuguese profiles, there are more food photos, several of meals made at home with recipes, or food prepared at restaurants. These food photos are often meticulously organized in spaces, quite colorful, giving an idea of something that is well planned.

One of the outstanding differences between Brazilian and Portuguese profiles is that while most of the Brazilian profiles are focused on products and services made by the profile owner, in the Portuguese case there is often the promotion of third parties (as discounts for online purchase on the field of biography of some of the profiles and videos with products received from several brands).

It is interesting to notice that contrary to what Helm & Jones (4) defend, POLs and nutritionists are not antagonists, they act like Neimetz (5) argues: as partners on complementary to guide, helping to surpass the communication gap between health professionals and patients. It is common to see POLs indicating a nutritionist to prescribe diet and specialized professional services and, in many cases, they present the professional that follows them. There is a true partnership with some of these professionals, through courses, videos and online conferences that are planned and attended together. Thus, there is not a great dispute between them: each one seems to keep with its own practices respecting each other.

Complicity was also observed between POLs and their followers: the first one is accessible, answering directly to comments made in posts or videos, and showing their daily lives. The direct video feature is used and gives a better sense of real-time presence. POLs organize meetings scheduled with their followers that are registered by photography and video, which is also used to share moments in which POLs and followers unexpectedly meet on the street, for example.

### 3.3. *Healthy lifestyle*

Instagram is the most used social media tool for "Fitspiration" posts (26). These aim to inspire people to exercise and healthy food. Women who have a thin or athletic ideal are the ones that usually adhere to this content (27). We consider healthy lifestyle profiles analyzing bios feature, namely the use of words related to this concept, such as: healthy lifestyle, fitness, health, life, some sport, gym lover, and athlete. We analyzed 52 Portuguese and 36 Brazilians profiles. These were identified in most cases with the owner's first and last name, and, in a few cases, through a nickname or some personal project name. Images appear in all profiles, usually with the face or/and bikini body (more usual for Brazilian women) or with gym clothes (more usual for the Portuguese ones). In both cases, the belly was evidenced. An intense exploration of the physical image of the profile holder was observed. In the bio of the Portuguese profiles, there was a strong allusion to the style of feeding, like vegan, vegetarian, paleo, and references to the food word, recipes, food lover, which we found not so characteristic in Brazil. In this country we have observed keywords like as diet and weight loss.

There is a difference between the profiles of both countries in this category, with the Brazilian profiles having a strong professionalization. There is a large number of product disclosures and partnerships with exclusive discounts and promotional actions. There are advertising posts, some marked with #ad #publi or Instagram "Paid partnership with" functionality. We even observed the creation of their own brands (for instance to produce gym and beach clothes) and the suggestion, in the bio, of an agent responsible for managing the career of the profile holder. Images are well worked, sometimes made by professional photographers, working with filters and editions and in some profiles they present themselves as an online or coach for exercise orientation, food, recipes and other purposes like life coach. In both cases, the services are disclosed in the profiles, through bio and videos.

In Brazil these people often become celebrities and, as such, they talk about food, recipes, exercises, clothes, beauty treatments and motivation. A link to their personal life was also observed, as most of these profiles show the husband/wife, children, siblings, parents, pets and even memorable moments, such as their own weddings. Many times the motivational issue is addressed to talk about subjects such as sadness, challenges, struggles, loss of children, illnesses, life lessons, happiness, and change. Followers are present not only on social networks but also at

events, where they are highly monitored. In some cases, they are confronted if they use the products they advertise.

Despite this scenario, there is some distrust with the people who present these profiles. In many cases, they are accused of a certain idealization of a lifestyle and of a perfect body. In fact, many invest in the purchase of sophisticated photographic equipment or in hiring professional photographers. Lighting features and forced poses are usually used to give the body a different look and, in some cases, image editing is used.

Mothers were also identified within this category. They present their children, sometimes doing even exercises together, and discuss content, as the current state of the body before, during and after pregnancy, talk about them and their family food. We also identify older women, presenting their 20-year and 30-year-old bodies, trying to demonstrate that they are still in great physical shape. Another recurring practice is to show their physical before and after a daily exercise routine.

We noticed a different scenario in Portugal, as we only find, for example, just a life coach. More specific partnerships with brands and profiles were observed, namely in bios, where discounts and contests are announced. Portuguese profiles are more focused on food and exercise, as a kind of journals in which these activities are recorded. Also, Portuguese profiles are much more focused on presenting food with and without recipes than Brazilians. Few profiles are presenting more personal issues like family and friends.

A strategy to involve the follower, through videos in which informal conversation is held in attempt to respond to all, was also observed. In some cases, messages are answered directly. Followers usually ask for advice and tips, and prizes are awarded and distributed.

In both countries, profiles present the diet, share information on what they eat and give recipes. They talk about the importance of more natural food and in some cases advocate supplementation. There are some invitations for feeding and exercise challenges. The environments presented are relatively similar, showing themselves at home, in the gym, at fairs, courses, travel, beach, countryside, and restaurants. However, parties and concerts were more observed in Brazilian profiles. Regarding the relationship with the other categories addressed in this study, some of the “healthy lifestyle” profiles have nutritionists who accompany them on their own bio or in posts (images and videos), even presenting appointments and the diet to follow. In other cases, we see people from these profiles along with professionals at events such as courses and fairs. We did not identify any obese or ex-obese person, nor do we see interpersonal relationships with this physical type.

As in previous categories, they use several media, such as YouTube and Facebook social networks, and participate in other Instagram profiles as joint projects with other users and personal communication projects. Many have their own website or blog, and some present the contents of the media in which they were part.

#### **4. Conclusion and future works**

Our article aimed to describe the online presence of three opinion leader categories (nutritionists, POLs and healthy lifestyle) on Instagram, as well as to analyze their characteristics, current practices, and relationships. We conclude that they are presented on Instagram, and use some common strategies among them to communicate and engage followers, such as contests and challenges. Informal talking about motivation and behavior change was observed. Sometimes, they use personal online presence, which is intimate and sympathetic for a vast audience. There are differences in their characteristics and practices. Nutritionists try to inform about diet, POLs, obese and ex-obese try to empathize and identify with their followers, and the healthy lifestyle try to inspire others.

The relationship between these leaders appears to be visible, as they act as partners, more than as antagonists, even though there is some suspicion. Nutritionists defend themselves using scientific discourse, but present their human side, showing a balanced life is possible. Obese and ex-obese talk about traumas and its overcoming, and usually share emotion. Profiles of the healthy lifestyle category show daily routines and how much effort is needed to maintain the body.

Multiple resources are used, namely images and videos posts as well as answering questions and comments, showing opinion leaders abilities to use a variety of Instagram features. Social networks, like YouTube and Facebook, websites or blogs, are also used.

Food is highly explored and it exists images associated to recipes, in which leaders show how to eat and cook properly. There are few food presentations on obese and ex-obese profiles, in which other issues have a more prominent presence such as the relationship with food and the mindset-changing hat can help with weighting loss.

In Brazil, the three opinions leaders' categories show another professionalized dimension. Some make their own brand of products or services on Instagram and disseminate them. In other cases, they work to advertise

products and services for a third party. This may be due to a large number of followers and as a way to generate income.

This preliminary study opens new paths to support the next steps of the ongoing research that frames it. The described exploratory content was originated from a netnography qualitative technique (23–25). The next step is to analyze other categories/profiles (like the chef, food diary, and physical educator). A quantitative approach will also be performed aiming to extend the understanding of the observed practices.

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