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Femininities & masculinities: sex, gender, and stereotypes in food studies

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Important scientific works have demonstrated that our sex and our gender affect the way we approach objects and situations. Although this is a long-established discussion in the field of social sciences, it seems that discussion about the relationship among sex, gender and food is still sometimes neglected in our daily lives, including empirical work involving food and consumer perceptions. Thus, the main objective of the present review is to provide a recent overview of the advances of sex and gender-related stereotypes in food studies, and to provide an indication of what the direction research might go in the future.

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Introduction

In early January 2019, the recently appointed Brazilian Minister for Women, Family and Human Rights, declared that a "New age has begun in Brazil: boys wear blue and girls wear pink". This simple, yet controversial sentence provoked a series of protests in Brazil and shocked the entire international community. Activists around the world started to bring to light an old sociological discussion: sex-differences, gender roles and stereotypes. Every society has gender roles expectations that are based on gender stereotypes. The act of eating and drinking are central for human behaviour, whether for physiological needs, for pleasure, or expression. These acts, seemingly simple and mechanical, are the result of a complex phenomenon of choice which is influenced by a set of factors of different natures (e.g. physiological, biological, social, psychological, and so on) that can be studied independently or taking into consideration their interactions [1]. Among these factors, gender has been widely mentioned in sensory and consumer research [2•,3,4]. Apparently simple, gender can be studied through a biological [5], psychological [6], or social [7], approach. Many articles in sensory and consumer research acknowledge that gender differences exist in food choice and preference, however, what a sensory scientist understands as 'gender' may be only a component of gender, more specifically biological sex; because gender is not a dichotomic variable formed by men and women, or its continuum. The general aim of this review is to provide an overview of the scientific literature on the impact of sex and gender-stereotype on eating and drinking behaviour, specifically discussing what has been published on 'gender' in sensory and consumer research. The literature search was conducted throughout 2019 using major databases including Science Direct, Google Scholar and Web of Science and the focus is on papers published in the last decade. We begin the review with a historical/conceptual perspective of sex and gender differences, and gender stereotypes.[1] Following, the articles were classified into two main categories: biological (sex-related differences on alcohol and protein consumption), cultural (sex/gender identity and expression). The review ends with a section on sex/gender and stereotype (the propagation of sex and gender stereotypes through TV shows, social media, and cookbooks). We close the paper with some conclusions and perspectives for future research.

The concept of gender: identity, attraction, sex, and expression

The terms 'sex' and 'gender' have been historically used interchangeably, needing to be conceptualized, differentiated, and situated in time and space. According to Lips [8], the term sex refers to biological characteristics, namely chromosomes, internal and external sex organs, and the hormonal activities within the body. Essentially, when we use the term sex, what we are really commenting

[1] It is worth mentioning that we are not interested here in disputing a terminology related to gender identity, however, we see how necessary it is to briefly familiarize the reader in this terminology as a basis for understanding the approach we followed in this review.

on is 'male' versus 'female', 'man' versus 'woman', that is, a binary perspective. The term gender, as opposed to the concept of sex, refers to non-biological aspects of the identification of an individual as male or female, being a product of cultural and subjective constructs that are constantly changing with time, context, and environment. Although the conceptual formation of the term gender was built after World War II [9••],[2] historically, evidence of its origin were found in the fag end of the 19th century thanks to Emile Durkheim [12], which pointed out that the division between men and women is not reducible to a biological difference. Despite the difference between the concepts of sex and gender, food-related work tends to use these terms interchangeably, in this review, we will adhere to the terms used by the authors and show that this conflation between sex and gender leads to, and sometimes, confirms stereotypes.

Regarding the definition of 'stereotype', Walter Lippmann [13] is generally credited with the introduction of this term in the social sciences, and defines it as 'pictures in our heads' (what we would nowadays call a schema) that simplify how people think about human groups. Since its introduction, the term stereotype has become quite common both in everyday language and in social science research. However, the definition of the characteristics and the role of stereotypes in human social behaviours are still subject to debate. Despite these divergences, most people agree that stereotypes are more than simple schemas as, besides their cognitive functions of simplification and categorization, they generate behavioural expectations and have behavioural consequences [14].

According to the social identity theory [15], conforming to group stereotypes reinforces group identity and increases the differentiation of those outside the group. For example, in food literature, authors report that, women were shown to adapt their food intake to their co-eaters: in same sex dyads, men and women consume a similar number of calories, whereas in mixed sex dyads, they favoured food with fewer calories [16]. Conversely, White and Dahl [17••] showed that in a public situation man were less inclined to choose a food associated with a dissociative reference group (a steak labelled as a lady's cut) than a neutral food. Sex-related stereotypes also lead to the phenomenon of self-stereotyping: people ascribe to themselves traits which are consistent with their social group membership. As an illustration, it is [18] reported that Asian women cued with either their racial or their gender identity before taking a difficult math test, performed differently on the test. Their performance was higher than the control group when they were reminded of their 'Asian' identity, and worse than the control group when reminded of their 'women' identity.

As for the concept of stereotypes, there is a huge variability in the definition of gender stereotype, which is also frequently termed sex stereotype, sex role stereotype . . . (see: Ashmore and Del Boca [19] for a review). According to Eagly and Steffen, gender stereotypes are derived from assumptions about people's social roles. In accordance with their everyday life observations, people generally assume women to be 'communal' and men to be 'agentic'. This gender stereotype is, however, modulated by social status: Part-time female employees are stereotyped as more communal and less agentic than full-time female employees, and part-time male employees are judged less agentic than full-time male employees [20•].

From a cognitive point of view, we use stereotypes to make sense of the world. Gender stereotypes form a strong and powerful filter through which we process information. They create expectations of how people should behave, and most people tend to adhere to those expectations, most likely to reinforce their gender identity. In this review, we focus on how sex and gender-related differences and stereotypes affect eating and drinking behaviours. For instance, several authors have reported a preference in men to consume meat, when compared with women in Nordic countries [21,22••,23•]. Other studies showed that in the UK, women tend to replace red meat with chicken [24,25] and they prefer to eat fruit and vegetables in Baltic countries [26,22••]. Men in the US were shown to accept strong, hot, spicy, unusual, and unfamiliar foods [27] and choose fewer high-fibre foods than women. They also consume more soft drinks than women [28,29]. In Costa Rica, boys were more likely than girls to report that they consumed fast foods because it was more satiating than other foods, whereas a higher proportion of girls than boys considered fast foods fattening [30]. Also, in Costa Rica, the consumption of moderate quantities of healthy foods was associated with femininity and male homosexuality while the consumption of hearty portions of nonhealthy foods was associated with masculinity and male heterosexuality [31].

Another interesting study investigated whether mate attraction, induced by exposure to attractive opposite-sex individuals, has a differential effect on the foods and beverages that men and women prefer to consume. The results revealed somehow a stereotypical reaction: prior exposure to attractive (versus less attractive) men decreased women's willingness to spend money on unhealthy foods and increased their inclination to spend money on healthy foods. On the contrary, exposure to attractive (versus less attractive) women did not influence men's consumption preferences for healthy or unhealthy

[2] With the construction of scientific works of Money [10] and Stoller [11], on the role of gender and gender identity, respectively.

foods, it rather motivated men to spend money on expensive drinking and dining options [32].

However, it is important to highlight that as eating and drinking are grounded in culture, gender differences found in one culture might not occur in another. For example, an appreciation of spicy food, which has been indicated as being influenced by gender in the US in the 1990's [27], has not been found to be gender-dependent in a well-known spicy and chili culinary culture such as Mexico [33]. Thus, to fully understand the effect of gender on eating and drinking behaviours, time and space need to be taken into consideration; and another key point in this puzzle is also the definition of gender.

While most work on gender-stereotypes focuses on binary gender models, many people do not fit those classical gender norms. Known as 'minority groups', they are stigmatized and can be identified by names or acronyms: 'LGBT' (lesbian, gay, bisexual, transgender) or even its extension 'LGBT-TTIQAP' (transsexual, travesty, intersexual, queer, asexual and pansexual) [34], is an umbrella acronym often used to describe individuals whose gender identity (one's sense of self as being masculine, feminine or somewhere along the continuum) does not fit their anatomical gender. Akerlof and Kranton [35,36] define identity as a sense of belonging to a social category, coupled with a view of how people in that category should behave. If a person identifies with a given category or group, her/his behaviour can be guided by the norms of the group to which they belong. In turn, group behaviours can also be regulated to a greater or lesser extent by the cultural norms of the group and are still the fruit of a sociological temporal fluctuation[3] [37].

Biological differences: sex-related differences on alcohol and protein consumption

Alcoholic beverage consumption has been well documented in Western Countries and as identified in literature, is a good example of differences of perception between sexes. Numerous studies describe how men negotiate their masculinity through alcohol consumption within the contexts of pub culture and drinking in the UK, New Zealand, and the USA [38–40]. Several studies have pointed out that young adult men drink more often than young women in almost every Western society. According to Holmila and Raitasalo [41], sex differences in alcohol consumption are found everywhere, to such an extent that they can be considered as one of the few universal sex differences in human social behaviour. However, while this is probably true in Western Countries and Latin America [42,43], it is certainly less clear in Muslim countries (or should be), where men do not negotiate their masculinity in terms of alcohol consumption, due to the current cultural norms and civil policy that restrict alcohol consumption [44,45]. This last point however might need further studies as there is quite a gap between what is done in private versus in public.

Some authors suggest that sex differences in alcohol consumption have a biological starting point [46]. One of the main biological differences that has been linked to differences between the sexes in alcohol consumption is fat versus water content in the human body [46,47]. The difference in fat content (and possibly alcohol consumption) has its origin in adolescence, the profound physical and hormonal changes during puberty result in increased body fat content among women, and increased muscle mass among men. Women body have therefore a smaller volume of water than men in which to distribute ethanol. Thus, women experience a higher blood alcohol concentration in comparison to their men counterparts when given a similar dose of ethanol that is proportionate to body weight [48] NIAAA, 1993. This difference between the sexes suggests that sensitivity may be an important factor affecting diverging alcohol-use trajectories for men and women in later adolescence and early adulthood [49]. This difference between the sexes can therefore be the starting point of the symbolic use of alcohol as a 'male' product that is developed in certain countries after adolescence [50,51].

This difference between sexes can be taken into a further point thanks to a review done by Maggi and Della Torre [52]. In their review on sex, metabolism and health, the authors address the plausibility that female liver functions diverged significantly from their male counterparts, given the role of liver in the control of metabolism. More specifically, the liver metabolism in women changes as a function of oestrogens levels that vary according to different moments of a woman's life. For example, after birth, the drop of circulating oestrogens promotes triglyceride synthesis, and the metabolic role of liver is driven by the needs of the mammary gland with high glucose production obtained. In a different situation, it is well known that after menopause and the cessation of oestrogen synthesis by the ovaries, the incidence of non-alcoholic fatty liver diseases increases significantly in women, and hormone replacement therapy reduces hepatic steatosis risk [53]. These two different moments in a woman body changes the metabolization of alcohol and can also be a specific biological reason that modulates alcohol consumption between sexes. This basic biological difference between the body of a man and a body of a woman modulates the metabolization of alcohol. This difference may also be one of the reasons why alcohol use and abuse have been perceived differently (during centuries), for

[3] According to Giddens [37], in a traditional society, the social identity of individuals is limited by tradition itself, by kinship, by locality. Modernity, characterized as a post-traditional order, by breaking with preestablished practices and precepts, emphasizes the cultivation of individual potentialities, offering the individual a 'mobile', changeable identity. (p.87).

men and women. It is a difference that has been decanting into a possible cultural effect of alcohol consumption, which positivizes alcohol consumption in men, but not in women.

In addition to the fat versus water differences in the human body, considerable evidence has demonstrated that women are more vulnerable than men to the toxic effects of alcohol, although the results as to whether differences between the sexes exist in ethanol-induced brain damage are contradictory [54]. Several studies have demonstrated the differential neurotoxic effects of ethanol on male and female adolescents when binge drinking. Sex differences have been described in prefrontal cortex volumes of adolescents with alcohol use disorders, where females and males, respectively, present smaller and larger volumes than controls [55]. In addition, limited frontal responses to a spatial working memory task and reduced grey matter volume in females with alcohol use disorders as compared to males, suggest that female adolescents may be more vulnerable to the impairing effects of alcohol [56,57].

Besides alcohol consumption, other sex differences in food intake have been accounted for in terms of biological differences. This is the case, for example, in protein consumption. According to Lemon [58], there appears to be a sex difference in one's ability to increase food intake adequately to compensate for the energy deficit caused by the increased energy expenditure associated with strenuous exercise. The author explains these gender effects on energy food intake in terms of metabolism regulation: "*Perhaps for reasons related to maintenance of reproductive function in times of energy deficit, females are better able to preserve functional tissue than males whenever energy intake is low*". Such biological difference could be the cause of current eating habits, in which meat consumption is double in men (1022 g per week) versus women (620 g per week), according to a national survey on Norwegian diet conducted in 2010–11 [59]. In agreement with this interpretation [60], a recent report in nutrigenomic studies suggests that females and males respond differently to specific diets at the genetic, molecular, and cellular levels. For example, Geer and Shen [61], list several sex differences that lead to a metabolic response to food intake, such as hormones (oestrogens having a favourable effect on intake response), energy expenditure (higher in men), insulin resistance, and fat distribution in the human body. These biological differences lead to sex differences in food intake, which can then be symbolically used in stereotyping men as 'big eaters', or that 'real men eat more' [62], or the fact that men eat less vegetarian food, and women eat more salads [63•,64]. These biological differences could be the reasons for certain stereotypes of masculinity and femininity in certain western countries, where men are expected to eat more meat and have a muscular body, while ideal woman are expected to eat less and have a low-fat body content [65]. This shows how a biological difference is used to build an ideology of manhood, and womanhood, or masculine versus feminine, which can vary in time and cultures.

Cultural differences: sex/gender identity and expression

Foods are not just nutrients and energy. Classical research has demonstrated that they are symbols used by social groups to express their social identity [66]. It was suggested that humans regulate food type and the amount they consume to express gender identity [63•]. In this context, meat (as seen at the last section) has been the most studied food product. In many countries, red meat is seen as a marker of masculinity which reflects traditional, patriarchal notions of power and performance [66,64]. Fruit and vegetables, in contrast, signify healthier diets, and therefore are a feminine symbol [23•]. These symbols, however, are not universal, since they depend on environmental and cultural factors, such as food availability, religion and so on. In Argentina, for example, meat is the centre of culinary identity for both men and women [67]. In a recent study carried out in the Netherlands [64], it is reported that second-generation Turkish adults expressed a stronger association between meat and masculinity, while the native Dutch group held the weakest link between meat and masculinity. Social context is also important: in military contexts, meat was shown to acquire an even more symbolic meaning of power and virility [68].

Rozin *et al.* [69,70] have developed a compilation of insightful works that demonstrate, repeatedly, how, and why we analytically differ in what we define as 'masculine' and what we define as 'feminine' in different cultures. Zellner *et al.* [71] report cultural differences in the craving for chocolate, a food traditionally associated with women. While nearly 50% of American women regularly crave chocolate, against 20% of men, no such difference was observed in Spain or Egypt. Other researchers [72] have shown that in western countries, individuals eating a small meal were rated as more feminine and less masculine than individuals who ate larger meals, regardless of the gender of the evaluators. Such stereotypes not only convey gendered representations of food but also influence our perceptions of co-eater's masculinity and femininity based on the content and size of their meals [73].

Cultural influences affect food choice, not only explicitly but also implicitly. For example, Zhu *et al.* [74] evaluated how the stereotype that healthy food is considered as more feminine and unhealthy foods as masculine influences Americans' food preferences. In the first experiment they asked participants to identify foods as either masculine or feminine. As expected, the

results showed that baked, lighter foods (e.g. *banana*, *oatmeal*, *spinach*, *orange*) were identified as feminine, and fried and heavier options (e.g. *soda*, *movie theater pop-corn*, *fried chicken*, *donuts*, *potato chips*, *French fries*) as masculine. In a second experiment they manipulated the packaging of a blueberry muffin to create a feminine packaging with the word 'healthy' alongside an image of a ballerina, and a masculine packaging with the word 'mega' beside an image of men playing football, and two mixed packaging with the word 'healthy' alongside the image of football players, and 'mega' with the image of the ballerina. All participants evaluated the muffins with mixed gender messaging as less attractive and having poorer taste than those that aligned with gender stereotypes, even though all the muffins were identical. In another study using Implicit Attitude Test (IAT), Kimura *et al.* [75••] examined gender-based food stereotypes of Japanese participants. As was previously found in western countries, low-fat foods (e.g. salad, fruit), and sweets (e.g. cake) were categorized as feminine, and high-fat foods (e.g. beef rice-bowl, breaded pork cutlet) as masculine.

Like healthy foods, organic foods tend to be perceived as more feminine, and this perception influences subsequent behaviours. Shin and Matila [76] report that an organic food choice is likely to prompt compensatory actions in men but not in women. After ordering an organic menu item, men avoided subsequent feminine choices and favoured masculine options. This behaviour, however, was modulated by health consciousness. Along the same lines, some recent work [77] explored the gendered perceptions of vegetarians and vegans, to conclude that choosing veganism is associated with lower levels of masculinity. This apparent direct association between men = meat, and non-meat = feminine can be easily explained if we remember that, in some societies, there is a symbolism between men and meat [22••,23•]. If we understand meat as a totem of masculinity, strength, and virility [78] then taking meat off the plate, the feminine associations will immediately follow, a giving the vegan plates feminine associations [72,74]. But, as we talked before, this symbolism is not applicable to all countries, such as Argentina or Uruguay, where meat is more a symbol of tradition [79], rather than masculinity.

Along the same line, in a study on vegan men, the authors [79] argue that vegan men embody hybrid masculinity by rebranding veganism from its feminine associations as something that is fundamentally masculine. The authors suggest that men are not abandoning their masculinity by engaging in a feminine perceived practice; rather, they are able to alter the practice of vegetarian diets by using masculine-coded discourses based on rationality rather than emotions. These masculine discourses permit them to claim individualized power over a diet that is usually linked to feminine behaviour [80]. In other words, the discourse is a mechanism used by the vegan men to claim an identity, linked at some point with masculine behaviour, rather than feminine.

Sex/gender and stereotypes

For a long time, food-related literature and marketing strategies have reinforced traditional images of the roles of women as food providers within a social group, a family, or a society [81–84]. For instance, stereotypes like 'grandma's food is better' and 'women need to eat less than men' are deeply embedded in gender roles. Besides the act of eating, cooking has also been surrounded by symbolic sex-related associations, or more specifically with feminine versus masculine associations. Why? It is because historically, everyday domestic food responsibilities have been put on the shoulders of women while men have mostly cooked in settings, primarily restaurants, among others. However, the act of cooking can mean more than merely preparing a dish — it can be a way to establish social bonds with others; with other men, women, and children [85,86]. Before this shift, men's involvement in cooking had been characterized primarily as temporally marked leisure, something electively chosen, and often limited to weekend breakfasts and particularly 'manly' forms of cooking, including barbecues, roast dinners, or special cooking occasions [87]. Men tend to feel that they are being 'a good father' in preparing these dishes, based on a 'love-value' aspect. Importantly, although fathers' involvement in cooking in previous generation may have been less frequent or visible, it may take on new resonance when enhanced with time and through the lens of loss, with memory providing an ongoing sense of emotional intimacy [87]. In some countries cooking is part of the new men experience. For example, as part of a desirable masculinity (loyal friend, responsible father, good husband or boyfriend, and so on), everyday cooking — both in stories about some of the men themselves but also in stories about 'other' men — is included in the cultural image of contemporary Swedish men [88,89]. The latest published articles on gender stereotype have addressed this issue using two content provider spheres: *Media platform* — traditional and social media (interview program, cooking shows and food blogs); and *cookbooks*. Both approaches converge in a demonstration of the inequitable gender hierarchies surrounding the roles of men, women, and food in our contemporary society.

It is well-known that media studies are a great source for revealing scientific knowledge on gender and identity [90] and are a solid vehicle to disclose knowledge about inequitable gender in the food domain. Keeping this in mind, Contois [91••] reviews *Hot Ones*, a popular YouTube interview program, to understand why in one hundred episodes only eleven women were guests. In

this show, the host and each guest eat two chicken wings dressed in hot sauces of increasing intensity. The author searches for explanations in classic works on gender differences in the food domain. Conventional binary definitions of gender create power hierarchies by feminizing dainty, light, and sweet flavours and foods, eaten in small portions with restraint, while conversely, social conventions mark generous portions consumed with gusto, as well as hearty, savoury, and spicy flavours, as masculine. The author concludes that "*a show creates, maintains and manipulates inequitable gender hierarchies through interdependent performances of genres and food consumption*". These inequitable gender hierarchies were the central point of a work developed by authors focusing on cooking practices [92], evaluating the situations and the discourse issues of the MasterChef Australia TV show. The authors have analyzed and demonstrated that women are often depicted as home cooks by inclination, while the figure of the professional chef remains almost exclusively manly. Despite its rhetoric of inclusivity in the TV show, MasterChef Australia does little to challenge ancient norms of the professional gastronomic field that have devalued women's cooking while valorising 'hard' masculinized culinary cultures led by men. In contrast, when the cooking show is hosted only by women, a transmission of 'women *empowerment*' can occur. Through a multimodal narrative analysis of two domestic American cooking shows from *Food Network*, the authors [93] demonstrated that "*women empowerment [can be] multimodally communicated as a means of facilitating the transition of women from underappreciated and expected caretakers in the kitchen to confident agents that envision themselves as responsible for caring for themselves, friends, and family, and that contribute to solving cooking dilemmas experienced by many Americans*".

Moving from TV shows to food blogs, we can observe that the stereotyped feminine domesticity is sometimes presented as an ideal example to follow. Other authors [94] describe how idealized food femininities are depicted in popular food blogs written by award-winning female food bloggers. These bloggers put forward a vision of idealized feminine domesticity that is "*glamorously seductive and rooted in the real life of everyday home cooks*", and that exemplifies women's need "*to balance multiple, seemingly contradictory ideals: she must embody domestic success, while avoiding associations of perfectionism, excessive control, or laziness*". In this way, the feminine domesticity can also be something '*commercially profitable*'. An interesting work developed by researchers working on social media [95••], examined how the traditional portrayals (women and their roles as food providers in families and society) are used today by women bloggers to construct their online personality and to sell their own offerings and those of other companies. Analyzing 17 important food blogs written only by women, they conclude that female bloggers use a variety of business tactics to "*ensure that these personalities are credible, professional and fully intermingled in the lifestyles and beliefs of their target consumers and all share values of middle class and domesticity that resonate across today's food culture*".

The second promising approach recently used by researchers has been the narrative analysis of cookbooks. A recent work [96] examines women's relationship to their cooking practices in cookbooks by three female celebrity chefs. The discourses in all the cookbooks conform to gender stereotypes depicting "*women being predisposed to care, cook, and serve others*". However, these discourses also reflect women's competence in the kitchen, and by extension in life, and thus are "*part of the construction of hegemonic femininit*".[4] The gendered language used in cookbooks written by women celebrity chefs was also approached by Matwick and Matwick [97••] drawing attention to how and in what ways women celebrity chefs provide models of femininity in their cookbooks. Through an analysis of 21 cookbooks, they show that the discourse of women in cookbooks (even if it is considered as weak or simple) created likable, accessible, and trustworthy personas for their cooking readers.

Conclusions and perspectives for future research

We have seen that many works report that both the quantity of food eaten, and the type of food chosen are heavily gendered, and as such they can be used in social interactions as signals of gender identity. In this review we have seen that social groups have cultural expectations about what, and in what quantity, a feminine woman or a masculine man should eat. It is in our human nature to eat in order to survive, but the way we do it is shaped by the society where we live, by the perception we have of ourselves, and the time in which we live. Food behaviour can thus be used to express one's femininity or masculinity to enhance social acceptance. Food and eating are strongly associated with social life.

Despite the changes towards greater sex and gender equality in many fields [98], food gender and sex stereotypes remain powerful. They might even lead to harmful behaviours such as excessive dietary restraint to fit feminine canons, or excessive fat intake leading to cardiovascular sickness, to feel like a 'real man'. Most of the current works on healthy behaviours describe food choice as a negotiation between healthiness and taste, without considering gender stereotypes. Health promoters should be aware of the existing food gender and sex stereotypes and their powerful role in food behaviours. Changing gender

[4] by analogy within the '*hegemonic masculinity*' that is part of Raewyn Connell's theory of gender order which, conceptually, aims to explain how and why men maintain dominant social roles over women and other gender identities that are perceived as 'feminine' in a particular society.

stereotypes might help encourage healthy eating in certain societies. This idea can have a big impact on public health, and it leaves a world of opportunities for future research on gender stereotypes and eating behaviour.

Dominant groups typically define what appropriate behaviours for a given gender are, and men and women try to fit into these norms to be successful in a society and avoid stigmatization. This ideology considers sex as binary independent entities based on biological differences. However, individuals may present various degrees of conformity to sex norms, and consequently gender norms, which not only include the dichotomy masculine — feminine, but other gender categories also such as trans, queer, asexual, and so on. The impact of these interindividual differences in gendered food behaviour has rarely been studied [58]. Looking at how individual differences in the gender norm conformity predict food behaviour might be a future direction for studies in food gender stereotypes as well as food literature. There is a conflation between sex and gender that transpire through our review, future empirical studies should try to disentangle those two aspects.

Authors' contribution

All the authors worked on all steps of the, conception and construction of this paper.

Conflict of interest

The authors declare no conflict of interest.

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