Food and sustainability: meat consumption and vegetarianism in Brazil and the United Kingdom

Alimentação e sustentabilidade: consumo de carne e vegetarianismo no Brasil e no Reino Unido

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ABSTRACT

Rural generalisability and overlooking the role of cultural differences in motivating food choices. The present paper provides a cross-cultural comparison of the motivations for meat consumption and vegetarianism in Brazil and the United Kingdom. This was done by conducting a total of 63 semi-structured interviews with meat-eaters, vegetarians, and vegans in Brazil (n = 41) and the UK (n = 22).

The data was analysed thematically and the findings were compared across the participant samples. The findings showed that meat consumption was similarly motivated and justified in each country through the 4 N's of justification for meat consumption. However, participants' experiences of reducing meat consumption varied between the two countries, influenced by distinct motivations, aversions, and constraints. In the UK, price served as a motivation for choosing meatless meals, whereas in Brazil it acted as a constraint to reducing meat consumption. Additionally, in the UK, disgust was identified as a significant aversion particularly towards eating parts of meat that visibly resembled the animal of origin — a sentiment not observed in the Brazilian sample. Lastly, while environmental concerns were not a primary reason for adopting a plant-based diet in either country, they often became a significant motivator for maintaining it after dietary change.

Keywords: Meat consumption. Vegetarianism. Sustainability. Cross-cultural comparison. 4 n's of meat consumption. Thematic analysis.

RESUMO

Há uma literatura crescente sobre o consumo de carne devido aos seus impactos negativos no meio ambiente. Entretanto, grande parte da literatura enfoca países do Norte Global, limitando a generalização intercultural e negligenciando o papel das diferenças culturais na motivação das escolhas alimentares. Este artigo apresenta uma comparação intercultural das motivações para o consumo de carne e o vegetarianismo no Brasil e no Reino Unido por meio da realização de um total de 63 entrevistas semiestruturadas com onívoros, vegetarianos e veganos no Brasil (n = 41) e no Reino Unido (n = 22). Os dados foram analisados tematicamente e os resultados comparados. Os resultados mostraram que o consumo de carne foi motivado de forma semelhante nos dois países por meio dos "4 Ns do consumo de carne". No entanto, houve diferenças nas experiências dos participantes quanto à redução do consumo de carne, relacionadas a motivações, aversões e barreiras. No Reino Unido, o baixo custo foi uma motivação para a opção por refeições sem carne, ao passo que, no Brasil, o alto custo atribuído a refeições vegetarianas atuou como uma barreira para a redução no consumo desse alimento. Além disso, no Reino Unido o nojo atuou como uma aversão, em particular com relação a pedaços de carne que remetem ao animal de origem, o que não foi observado na amostra brasileira. Por fim, mesmo que em nenhum dos dois países questões ambientais tenham motivado de maneira significativa a adoção de dietas baseadas em plantas, ainda assim elas atuaram como uma motivação para a manutenção de dietas sem carne.

Palavras-chave: *Consumo de carne. Vegetarianismo. Sustentabilidade. Comparação intercultural. 4 n's do consumo de carne. Análise temática*

1 INTRODUCTION

Methane, nitrous oxide, and carbon dioxide are released at every stage of livestock production for meat and dairy, making it a major driver of greenhouse gas emissions (XU *et al*., 2021). Despite this, most people in high-income countries eat high amounts of meat that exceed nutritional needs (Sans; Combris, 2015; Steenson; Buttriss, 2021). Meat consumption in lower-income countries is also increasing (Parlasca; Qaim, 2022; Tilman; Clark, 2014). This has led to a growing consensus that reducing excessive meat consumption will be necessary to meet climate change targets, whilst also benefiting people's health (Bajzelj *et al*., 2014; Feigin *et al*., 2023; Hedeneus; Wirsernius; Johansson, 2014; Minas; Tipping, 2024; Ritchie; Reay; Higgins, 2018; Steenson; Buttriss, 2021; Tilman; Clark, 2014). On the other hand, awareness of the environmental impacts of meat and dairy is low in many countries (Van Bussel *et al*., 2022; Wellesley *et al*., 2015). It is therefore not clear to what extent awareness of the negative environmental impacts of meat might shape dietary choices.

Many people eat meat despite experiencing a moral discomfort with the thought of harming animals, a contradiction called the 'meat paradox', (Bastian; Loughnan, 2017; Loughnan; Haslam; Bastian, 2010).

Consistent with cognitive dissonance theory (Festinger, 1957), meat-eaters use a variety of strategies to reduce these feelings of discomfort including denying that animals used suffer or warrant moral concern (Bastian *et al*., 2012; Bratanova; Loughnan; Bastian, 2011; Loughnan; Haslam; Bastian, 2010). Another strategy is rationalisation (Piazza *et al*., 2015). Joy (2010) argued that there are three categories of justifications for meat consumption referred to as the 'Three N's of Justification', which enable meat-eaters to continue eating meat without feeling guilty. The first is the belief that eating meat is natural. It is viewed as something which we are evolved to eat and which we naturally crave. The second is the view that eating meat is normal, that it is what most people do and might expect us to do ourselves. The third is the view that eating meat is necessary for our health and survival. In a series of empirical studies, Piazza *et al*. (2015) found that these justifications in addition to a fourth justification, that meat is nice, captured the majority of justifications people offer for eating meat, supporting four N's of justification. These beliefs are thought to be widespread and reinforced by family, media, religion, as well as different private and public organisations (Joy, 2010; Piazza *et al*., 2015). The authors offer these rationalisations as an explanation for how so many people are able to eat meat despite finding it to be a morally troublesome behaviour.

However, a minority of individuals actively exclude meat from their diet, for example through vegetarian or vegan diets (Ipsos, 2018). Common motivations for reducing meat consumption include concern for animals, health, and the environment, disgust, and religious beliefs (Ruby, 2012). Motivations tend to be investigated at a micro-level and some authors have focussed on differentiating those motivated by their health, and those motivated by other ethical values including concern for the environment or animal welfare (Fox; Ward, 2008; Hoffman *et al*., 2013; Ruby, 2012).

On the other hand, Rosenfeld and Burrow (2017) investigate motivations for not eating meat at a broader level through motivations, aversions, and constraints. According to these authors, vegetarian motivations are goal-orientated, shape voluntary food choices and have the ability to influence one's self-concept. Such motivations may involve those noted above by Ruby (2012), including concern for animals, the environment and health. Aversions relate to disgust towards meat and other sensory processes or taste preferences away from meat. Aversions might range from disliking the taste of meat (Backer; Hudders, 2014), to feelings of repulsion (Hamilton, 2006). Constraints are defined as environmental barriers preventing an individual from making food choices freely. In these situations, individuals are not able to draw upon intrinsic motivations as their ability to make food choices is limited. Examples of constraints include the influence of others, lack of choice, and financial barriers (Hoffman *et al*., 2013). Focussing on motivations, aversions, and constraints, more broadly enables a conceptualisation of different motivations for not eating meat, that will be more robust against transitions towards reduced meat diets in different contexts and over time (Rosenfeld; Burrow, 2017).

Much of the literature on meat consumption and on vegetarianism has focussed on global North countries, limiting cross-cultural generalisability (Hartmann; Siegrist, 2017; Kwansy; Dobernig; Riefler, 2022). Nevertheless, cultural differences play an important role in food choices and transitions towards reduced meat diets will likely differ across different countries (Aiking; De Boer, 2020; De Boer; Aiking, 2017; Hocquette, 2023). For example, while meat consumption is highest among high-income countries, changes in consumption have been slow, stagnating and even decreasing over the last 50 years, with increases in per capita meat consumption being the most marked in countries that have undergone a strong economic transition (FAO, 2023; Gómez-Luciano *et al*., 2019). However, income alone does not explain variation in consumption (Bekker; Tobi; Fischer, 2017). Bekker and colleagues (2017) highlight the importance of food culture in explaining consumption patterns, where food culture relates to food practices that are shared among individuals with the same cultural identity and value systems (Ishige, 2019; Nguyen; Platow, 2021; Schwartz, 2008). Food culture relates to influences on food beyond individual factors, including surrounding environments, food socialisation and cultural policies (Mingay *et al*., 2021). This includes beliefs and values around food, which may be formed through inherited knowledge, learning and experience, throughout one's life (ibid).

The current paper aims to add to past literature exploring motivations for meat consumption and vegetarianism by providing a cross-cultural comparison, focussing on different participant groups in the United Kingdom (UK) and Brazil. Brazil and the UK are among the largest meat-consuming populations, as well as being among the largest emitters of livestock-driven greenhouse gases (Bailey; Froggatt; Wellesley, 2014; FAO, 2023). Though the demand for meat consumption has increased in both countries over the last 50 years, increases in meat production have been sluggish in the UK compared to Brazil (FAO, 2023). While differences in consumption may be explained by differences in income at the country level (FAO, 2019), we are interested in understanding drivers of meat consumption and vegetarianism in these countries considering individual experiences as they are embedded in social and cultural practices. Given the significant negative impact of livestock production on the environment and in contributing to climate change, we are also interested in establishing to what extent participants are aware of the environmental impacts of meat and how such awareness might influence participants' diets. Following this, the present paper provides a qualitative exploration of the motivations for meat consumption and vegetarianism in the UK and Brazil. In doing so, we aim to answer the following research questions: (1) What are the motivations for meat consumption? (2) What are the motivations for reducing meat consumption? (3) Are participants aware of the environmental impacts of meat and how does this influence participant's diets?

2 METHODS

This study began as two separate projects carried out in different countries. In 2019, Tiago Duarte visited Emily Wolstenholme´s University to give a presentation about the data collected in Brazil. The authors found that they were conducting similar research with data that was comparable to an exploratory study. The authors asked similar questions about motivations behind food choices related to meat and about knowledge of the link between livestock farming and climate change in their research, using slightly different interview guides. At that point, data in Brazil had only been produced on vegetarians, so a new stage of data collection with meat eaters began in this country to make a full comparison possible. Wolstenholme then provided Duarte with the interview guide deployed in the UK and it was used in Brazil with slight alterations to adapt to its cultural context.

In the UK, the study was advertised in different places, including a UK University online system whereby members of the public can apply to take part in paid research, a local gym, social media pages for vegans in the local area and 'Veganuary' (see uk.veganuary.com), in addition to contacting a member of 'People and Planet' (see peopleandplanet.org) and using a snowballing approach. Participants were offered an incentive of £10 for taking part. In the UK sample, 22 participants took part in the study, being 8 meat-eaters, 2 vegetarians and 12 vegans. 18 Participants were female and 4 were male, with ages ranging from 19 to 48 years old.

In Brazil, participants were initially invited to take part in the study through Thaís Teixeira's informal networks, which was followed by a snowball approach. An online Facebook group for vegetarian and vegan people from Brazil was also used to contact interviewees. All participants were undergraduate students from a University in Brazil and received no financial incentive. Altogether, 42 persons took part in the study, being 12 meat-eaters, 17 vegetarians and 12 vegans. 31 participants were female and 11 male, with ages ranging from 18 to 28 years old.

In both countries, researchers aimed to have heterogeneous samples to capture the diversity of motivations behind food choices related to meat and whether environmental concerns influenced those motivations. Only university students were interviewed in Brazil, however, participants were from a range of courses, with different political positions and economic backgrounds. As a result, both samples represent diverse views and motivations, making them useful for an exploratory comparison between countries.

In both countries, data collection was carried out through semi-structured interviews. In the UK, the interviews were conducted over the telephone for convenience in 2017. In Brazil, all interviews were carried out in person. A first round of interviews with vegetarians was conducted between late 2017 and 2018 and a second round was conducted in late 2019 with meat-eaters. The interviews were scheduled for one hour and the duration of each interview ranged from 20 minutes to two hours. The interview was structured around question segments relating to: participant demographics, motivations for eating different foods, dietary identity, motivations for avoiding meat and other animal products, awareness of the environmental impacts of eating meat, motives driving meat consumption, and willingness to reduce meat (meat-eaters only).

All interviews were recorded and transcribed by the research team, allowing for familiarisation with the data prior to analysis. Initial analytic ideas and patterns in the data were noted down during the interview process and during transcription. Data collection ceased when a point of saturation was reached. Data was analysed using thematic analysis (Braun; Clark, 2006, 2022; Terry *et al*., 2017). Once the analysis was completed in each country, preliminary reports of the findings were produced and reviewed in relation to each other, enabling a comparison of key similarities and differences in the data. These findings are reported below. All names have been replaced with pseudonyms for participant anonymity.

3 RESULTS

3.1 MOTIVATIONS FOR MEAT CONSUMPTION

The motivations for meat consumption were similar in the UK and Brazil. Motivations supported the 4 N's of justification, with the exception of the view that meat consumption is 'natural' which did not emerge in our samples.

Participants in both countries enjoyed eating meat because it tasted nice. Some participants mentioned that meat added variety and substance to meals. Meals were therefore viewed as lacking taste if they did not include meat.

> Beth, UK (meat-eater): I enjoy eating it [meat], I find it easy to make meals that include it, I know it's good for you, and it's easy to get more variety out of same things, I can buy a piece of chicken or a piece of fish and I can do loads of different things with it … yeah just enjoy the taste really.

> Nathália, Brazil (meat-eater): A lot of vegans and vegetarians have tried to convert me. And I feel guilty whenever I read about. But I have tried to change my habits, but I really miss it. […] The taste. It seems like I´m eating nothing.

However, not all participants enjoyed eating meat. In both Brazil and the UK, there were some who disliked eating meat but consumed it for the purpose of maintaining a healthy diet. Meat was viewed by meat-eating participants as being healthy and containing essential nutrients, such as protein and vitamin B12. As a result, some participants were concerned that their diet would lack essential nutrients if they did not consume meat, motivating them to continue eating it. In other words, eating meat was regarded as *necessary*.

> Marisa, Brazil (meat-eater): I eat beef because of proteins, because they´re important. I have iron deficiency actually. […] Cause, like, I don´t find it tasty. I really eat it because of the nutrients.

> Becky, UK (meat-eater): I guess it gives you like a bit more energy because it's got protein in it. I feel like it's quite healthy to eat meat. I think it's quite hard, if you're vegetarian, to get enough protein in your diet.

While meat-eating participants appeared to be motivated by conscious factors such as enjoying the taste of meat and appreciating its nutritional benefits, eating meat was also an automatic process for some. When asked why they ate meat, participants stated that they had been raised eating meat and continued to eat meat without thinking about it. Eating meat was a habit and reducing meat consumption would therefore be difficult, requiring time and conscious effort. This would require participants to change their diets and perceived meal structures, as a meal without meat was viewed as lacking something. In this sense, participants from both countries considered that eating meat was normal.

> Sofia, Brazil (meat-eater): [...] I think that the habit of having meat as a protein in the meals is what, mainly, like, it´s the main reason why I have meat in meals.

> Amy, UK (meat-eater): I've just always eaten meat, I like the taste and yeah, I've just always eaten it, so it is,a habit.

Related to the *normality* of eating meat, social and cultural norms also played an important role in motivating meat consumption in both Brazil and the UK. Some participants recalled that they had found it difficult to reduce their meat consumption when living with other meat-eaters. This was in part due to practical reasons, as participants would have to prepare separate meals for themselves if they lived with other people who ate meat. This was especially difficult for participants who relied on their parents to cook their meals. However, eating vegetarian meals in the presence of other meat-eaters was also viewed as being socially difficult. In both the UK and Brazil, eating meat was viewed as being a standard practice, while those who attempted to reduce or eliminate meat from their diet were viewed as being socially deviant. Some participants recalled that they had tried to limit their consumption of meat at some point in the past, but had received criticism and were pressured to eat meat by their family members. In this way, social norms appeared to act as a barrier towards a reduced meat diet.

> Hannah, UK (meat-eater): I was kind of forced to eat meat when I was younger because my dad came from a farm and if you didn't eat meat in the family you were weird.

> Marcela, Brazil (meat-eater): I didn´t eat meat for nearly two months, but like I didn´t have a lot of support at home. My parents thought 'that´s wrong, you´re spitting on the food we make for you', you know?

3.2 MOTIVATIONS FOR REDUCING MEAT CONSUMPTIONS

An unexpected finding was that several interviewees in Brazil had at some point in their lives considered transitioning to vegetarianism and had even stopped eating meat for some period. Some participants in the UK sample had also been vegetarian or had stopped eating certain types of meat, such as red meat, at some point in their lives. Differences emerged in the motivations for reduced meat consumption among meat-eating participants in Brazil and the UK. In both countries, some meat-eating participants did not not feel that meat was always needed to be included in meals and preferred the taste of vegetarian or vegan dishes. In the UK, many participants often did not eat meat because they did not like the taste and particularly avoided certain types of meat which they found to be disgusting. These participants did not like to be reminded of the animal origin of meat and avoided eating meat on the

bone or meat with blood or veins, demonstrating the role of aversion in reducing meat consumption. This theme did not emerge in the interviews with Brazilian participants.

> Olivia, UK (meat-eater): I wouldn't eat things on the bone, it just would - makes me feel a bit sick, it's not appetizing to me, to know that it's come from an animal, obviously it has, but I know that but it's just my logic. I just don't find it appetizing if I can see that it's from an animal.

In the UK, some meat-eating participants indicated that they occasionally ate vegetarian meals to save money. In contrast, some Brazilian participants argued that buying plant-based foods and eating out in vegetarian or vegan restaurants was expensive. For example, one participant who financially depended on her mother with a low-income job stated that her family had a difficult financial situation and that this made it difficult to access alternative foods to meat. Thus, price appeared to be a motive for meatless meals in the UK, whilst acting as a constraint towards a reduced consumption of meat in Brazil.

> Karen, UK (meat-eater): I think about like meat is expensive and I do enjoy salads with like nuts and things in, so I don't always miss it [meat].

> Miriam, Brazil (meat-eater): So, I´ve stopped eating meat for two years, I was in high school. But, for financial reasons it was difficult, like, having access to other food that could substitute it. I´d go to school and eat only cheese bread, and cereal bars. Then I even had anaemia, so I had to get back to eating meat.

Interviews with vegetarian and vegan participants enabled insights into the drivers behind diets that exclude meat entirely. In both Brazil and the UK, the main motivation found to encourage vegetarian and vegan diets was animal welfare. Vegetarian and vegan participants in both the UK and Brazil conveyed that it is wrong to kill animals for human consumption. Participants did not view animals as a source of food, but instead viewed them as sentient beings. In both countries, participants placed a great emphasis on animal suffering and feelings of empathy and compassion towards animals. Footage showing poor animal welfare conditions and the slaughter of animals contributed to decisions to eliminate meat and/or other animal products from participants' diets. One participant mentioned watching a video about animal slaughter in school and other participants mentioned documentaries showing footage of this kind. For example, the Netflix documentary 'Earthlings' was mentioned by participants in both the UK and Brazil. A few Brazilian respondents also mentioned as a motivator the fact that they had watched animals being slaughtered in front of them, which had a strong impact in leading them to vegetarianism.

> Chris, UK (vegetarian): I watched like 'earthlings' in August, and I was like oh my god like, this is the worst thing ever so I was like, I wanna just be a vegan now.

> Carol, Brazil (Vegetarian): I think that first of all it was the animals like the suffering that it causes on them, right. We´re enslaving animals to satisfy ourselves, so this really got me there, although it took me quite a while to make the decision to stop [eating meat].

Health did not appear to motivate vegetarian or vegan diets initially, however vegetarian and vegan participants in both countries noted the health benefits of not eating meat. Participants associated their diet with a healthy lifestyle and mentioned the negative health impacts of eating meat, including non-communicable diseases associated with meat consumption and concerns around the use of hormones and antibiotics in livestock production. Participants also described various health benefits they had personally experienced since eating a vegetarian or vegan diet, such as weight loss, clearer skin, thicker hair, and higher energy levels. Becoming meat-free also encouraged some participants to increase the variety of foods in their diets. Health therefore served to reinforce decisions not to eat meat.

> Chris, UK (vegetarian): I'd say the health impacts it's had on me has been absolutely fantastic in terms of like, giving me more energy, clearing up my skin, a lot of those things, and also in terms of diet before I became a vegetarian, I was a very sort of like nomadic cook, I was pretty terrible, I was pretty lazy, I didn't really cook much, but now I've became a vegetarian, slowly veganising my diet, I've sort of been branching off into foods that I've never really cooked with before.

Yara, Brazil (vegan): Then I understood veganism as a healthier way of life, it was better for my body, I felt much better than when I ate meat... My reactions got better, my digestion improved. […] My body functioning has improved, my skin has improved, my stomach has improved, I don´t feel heavy after eating, my diet is more nutritious and more varied, I consume everything I need.

3.3 AWARENESS OF THE NEGATIVE ENVIRONMENTAL IMPACTS OF MEAT AND IMPACT ON DIET

Knowledge of the environmental impacts of livestock production varied substantially within each country. Both samples included those who were completely unaware of how livestock production might impact upon the environment and those who made explicit links between livestock production and environmental issues, including greenhouse gas emissions and climate change. In the UK sample, awareness tended to be particularly low among meat-eating compared to vegetarian/vegan participants. In Brazil, mixed levels of awareness were shown across meat-eating and vegetarian participants.

> Becky, UK (meat-eater): I don't know to be honest. I know that eating meat and fish does [impact the environment], but I don't really understand like in what sort of way.

> Marcela, Brazil (meat-eater): Well, I have no clue about the greenhouse effect, for instance, how this [meat consumption] affects it.

Interestingly, there were some cases in which meat-eating participants had reduced their meat consumption for environmental reasons. In these cases, participants had specifically reduced their beef consumption, acknowledging the greater environmental impacts of beef compared to other meats, such as chicken. This was the case in the UK and Brazil. On the other hand, other participants did not think that reducing their meat consumption would have much of a positive impact on the environment and were sceptical about the effects of individual change on environmental issues.

> Nathália, Brazil (meat-eater): So, like, you... only me not eating [meat], I don´t feel that I´m making a difference. It might be that… it´s bad when people say that, I know. It looks bad when a vegetarian hear someone saying that, but this is what I feel.

> Becky, UK (meat-eater): I guess I would be willing [to eat less meat], I don't know. I know it sounds bad but I think just one person doing it isn't really going to do anything about it.

In the UK, many vegetarian and vegan participants associated meat and dairy consumption with issues such as greenhouse gas emissions, water use, land use, de-forestation, and global food security. There was more variation in awareness among vegetarian participants in Brazil compared to the UK. In both cases, participants tended to become informed about the environmental consequences of meat production only after they had already adopted a vegan or vegetarian diet for another reason, generally relating to animal welfare. In both samples, participants became aware of the environmental impact of meat and dairy after researching the topic, watching documentaries such as 'Cowspiracy', and talking to other vegetarians and/or vegans. This led to an increased awareness and incorporation of pro-environmental beliefs and values, with many participants stating that environmental reasons

were an important motivation for continuing to exclude meat from their diet. This increased awareness led to a further reduction in the consumption of animal products for some UK participants. Therefore, environmental motivations appeared to reinforce rather than initiate participant's decisions to stop eating meat.

> Carol, Brazil (vegetarian): So, like, it was animal suffering [which led me to vegetarianism], and afterwards I thought also about nature because we´re destroying nature also because of agriculture, livestock farming, and stuff. That´s something that´s making a difference to keep me committed to [vegetarianism].

> Angela, UK (vegetarian): I don't feel like it's moral to kill them [animals], it's kind of different to how badly they're treated as well on top of that, so there's that and, yeah things like 'Cowspiracy' like I watched part of it and thought it was terrible but I'm sure you're probably getting lots of people who've said that they've watched that, and I've now realised that the environmental impact of eating meat and, and fish as well, that it's just not really sustainable.

4 DISCUSSION

The motivations for eating meat were consistent across both samples and tended to support the four Ns of justification for meat consumption (Joy, 2010; Piazza *et al*., 2015). Meat-eating participants felt that eating meat was *normal*, a habitual behaviour reinforced by social norms, necessary, providing important nutrients essential to a healthy diet, and *nice*, in terms of taste and providing variety to meals. This builds on past literature which has tended to investigate rationalisations for meat consumption in a single context, by showing that meat consumption can be motivated and justified in similar ways across different countries with different cultural practices. Interestingly, we did not find any evidence that participants rationalised their meat consumption through the justification that it is *natural*. Other justifications may therefore be more prevalent than the perceived naturalness of eating meat (Piazza *et al*., 2015). Alternatively, the view that it is 'natural' to eat meat may be less common as awareness and concerns for the treatment of animals has become more prevalent across the world (O'driscoll; Butler; Arnott, 2023).

A surprising finding was that some meat-eating participants in Brazil had already previously tried to reduce their meat consumption. This was unexpected given that Brazil has been a major contributor to global growth in livestock-derived food demand (Bailey; Froggatt; Wellesley, 2014; Delgado, 2003; Pica-Ciamarra; Otte, 2011) and considering that meat consumption remains high and on an increasing trajectory in Brazil (FAO, 2023; OECD, 2021). This was less surprising in the UK sample, given increasing evidence of stagnating and even reduced meat consumption K over the last decade (Benson *et al*., 2019; Defra, 2023). The finding that many meat-eaters had reduced their meat consumption in the past or at present, reflects trends towards more flexible diets over recent years, including 'flexitarian' diets, which involve various ways and degrees of reducing or replacing meat (Dagevos, 2016; Derbyshire, 2017).

The motives for reduced meat consumption among meat-eating participants supported the role of motivations, aversions, and constraints as relevant dietary drivers, with variation shown across the samples. For example, while some participants in the UK stated that eating less meat can help to save money, Brazilian participants indicated that eating healthy vegetarian foods can be expensive, with this acting as a constraint towards their reduced consumption of meat. This demonstrates how micro-level motivations, such as cost, can interact differently across different cultures, as suggested by Rosenfeld and Burrow (2017). Moreover, this specifically demonstrates how income and other economic factors can limit access to healthy vegetarian food options (Rammohan; Awofeso; Robbitaille, 2012; Wellesley; Happer; Froggatt, 2015), highlighting the importance of affordability in enabling diets that are healthy and sustainable. In support of this, recent literature demonstrating affordability to be one of the top

priorities for encouraging an uptake of plant-based products in Brazil, where plant-based meat products tend to be more expensive than meat products (Newton *et al*., 2024).

Another difference was that disgust emerged as an aversion towards certain types of meat among meat-eating participants in the UK, while this finding did not emerge in the Brazilian sample. Disgust tended to be associated with features representing the animal origin of meat, supporting literature evidencing disgust towards meat to be associated with moral motivations related to animal welfare (Hamilton, 2006). The fact that this finding was not consistent across the samples may reflect differences in the representation of meat in the UK and Brazil, as Western supermarkets tend to present meat that is already processed and does not contain strong cues of animal origins (Benningstad; Kunst, 2020). On the other hand, it is common to display whole animal carcasses at markets and restaurants in South America (Kunst; Haugestad, 2018). This supports past research demonstrating cues of meat's animal origin in promoting disgust and empathy towards the animal in countries where it is less common to see unprocessed meat, leading to reduced willingness to eat meat (Kunst; Haugestad, 2018). Therefore, while participants appeared to eat meat for similar reasons, motivations for and experiences of reducing one's meat consumption appeared to interact differently at an individual and country level.

It is interesting to note that awareness of the environmental impacts of meat also served to motivate reduced meat consumption among some of the meat-eating participants in the UK and Brazilian samples. Here, awareness of the impact of meat production on the environment lead to the reduction of beef, an emission-intensive meat, specifically. Despite this, environmental concerns were not a key motivation for the initial adoption of a vegetarian diet among vegetarian and vegan participants. Instead, vegetarian diets in both UK and Brazilian samples tended to be motivated by ethical reasons relating to animal welfare. However, participants' motivations appeared to shift over the trajectory of them adopting a vegetarian diet, with awareness and concern for environmental factors becoming a more prevalent motivation after they had already adopted a vegetarian diet. This suggests that individuals may search for additional information and renegotiate their motivations for reducing their meat consumption over time. This is supported by a qualitative study of vegetarian motivations by Fox and Ward (2008), which similarly found environmental concern to emerge as a motivation for vegetarianism following adoption of a vegetarian diet for alternative reasons. They argue that environmentalism may emerge as part of a consequence of rationalisations for vegetarianism, as individuals seek additional reasons for their decision and are exposed to the views of others. This is also supported by the fact that people often seek out information that conforms to their beliefs, including relating to food (Dickinson; Kakoschke, 2021).

There appears to be increased information and media addressing the impacts of livestock production on the environment as well as on animal welfare, as popular documentaries, 'Cowspiracy' and 'Earthlings', were mentioned by participants in the UK and Brazil. Although information alone may not be sufficient to trigger dietary change, it can play an important role in socialising the idea of reduced meat consumption (Wellesley; Happer; Froggatt, 2015). In the case of the present study, documentaries were a useful tool for raising awareness of the negative environmental impacts of meat, with this awareness serving to reinforce decisions not to eat meat. This can be supported by a recent study which found that watching the Cowspiracy documentary increased participants' awareness of the environmental impacts of meat and improved their attitudes towards eating less of it, as well as increasing intentions to reduce their meat consumption, while no such changes were shown among the control group who watched a documentary on a different topic (Pabian *et al*., 2020). Mainstream media therefore may have the potential to influence dietary choices and encourage dietary shifts away from meat across different countries and contexts.

While the present study provides useful insights into the motivations for meat consumption and vegetarianism, it is important to note the study limitations. The Brazilian sample was a student population, while the UK sample was comprised of students and non-students. This means that the comparability between the two samples may be limited, as participants may have different experiences and concerns. This may also explain why awareness of the environmental impacts of meat appeared to

be higher among meat-eating participants in Brazil compared to the UK. Moreover, the UK sample had a smaller vegetarian sample, limiting scope to explore the experiences of those following a vegetarian diet which may differ from those following a strictly vegan diet. It is common for qualitative studies to recruit small participant samples as qualitative studies focus on providing rich data on participant experiences rather than generalisation of research findings. However, it is possible that recruiting a larger and more diverse sample, for example by recruiting individuals living in different areas and on different incomes in the UK and Brazil, could have introduced new themes to the data and shed light on other individual experiences.

5 CONCLUSION

In this paper, we explored the similarities and differences between Brazilian and UK samples regarding the reasons for adopting — or not adopting — a plant-based diet. Among meat-eating participants in both countries, the "four Ns" of justification for meat consumption were commonly cited, with the exception that meat was not perceived as natural. Instead, eating meat was primarily viewed as normal, necessary, and nice. Animal welfare emerged as the primary motivation for adopting a plant-based diet in both samples, whereas environmental concerns were not a significant initial driver for vegetarianism. However, after transitioning to a plant-based diet, environmental awareness often became a key factor in sustaining it. In particular, widely known documentaries such as Cowspiracy and Earthlings played a significant role in informing vegetarian participants about the environmental impacts of meat consumption and reinforcing their commitment to a plant-based diet.

An interesting finding was that a vegetarian diet was perceived as expensive in Brazil, whereas in the UK, it was considered an economical option. Implementing policies in Brazil to make plant-based diets more affordable could help promote their adoption among the population. Another notable difference between the samples was the role of disgust. In the UK, aversion to meat that visibly resembled its animal origins emerged as a factor contributing to reduced meat consumption. In contrast, this was not observed in the Brazilian sample.

To conclude, there are a lack of cross-cultural studies in the literature on meat consumption and vegetarianism. In this paper we took initial steps to fill in this gap, however, there is much to be researched in this area. Researchers and policymakers would benefit from larger-scale qualitative studies that reveal the meaning and motivations for consuming meat and for the adoption of plant-based diets in different cultures. Such studies would be helpful for developing policy strategies to address environmental issues related to livestock production, including climate change, at a cross-national level and, particularly, beyond global North cultures, which dominate a large part of the international literature.

ADDITIONAL INFORMATION

ETHICAL STATEMENT

Ethical approval was received from Cardiff University School of Psychology Research Ethics Committee. The Brazilian research team did not submit their research project to an Ethics Committee as this was not required by their institution. However, we certify that the research adhered to the ethical principles of the American Psychological Association. In both countries, informed consent was attained by asking participants to continue only if they were willing to participate and if they had read and understood the instructions and information provided about the study aims and procedure. Participants were told that participation was voluntary, that they could stop the interview at any point or refuse to answer any question they did not wish to answer. Upon completion of the study, participants were fully debriefed. The data were anonymized and treated confidentially.

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AUTHOR CONTRIBUTIONS

EW, TRD, and TRT designed the research, EW and TRT conducted interviews, and EW, TRD and TRT analysed the data. EW conducted research activities in the UK, TRD and TRT conducted research in Brazil. WP and LW provided essential guidance in the research design, offered continuous feedback, and provided critical insights throughout the research process. All authors contributed to the writing and revision of the article. All authors have approved the submitted version.

NOTES

1 | Greenhouse gas emissions from livestock farming vary based on the scale of operations — such as agribusiness versus family farming — and the biome in which they occur. For instance, livestock farming in the Amazon often involves deforestation, while in grassland biomes, it typically does not (Litre *et al*., 2007). Given that significant changes in dietary habits may take time, production-focused policies should simultaneously promote low-carbon farming practices to help mitigate climate emissions. However, we do not explore this issue further, as it falls beyond the scope of this paper.

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