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# Communicating food-based dietary guidelines culturally sensitive? A comparative argumentation analysis of the German and Brazil dietary guidelines

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**Objective:** To examine the cultural appropriateness and argumentation structure of food-based dietary guidelines (FBDGs) in Germany and Brazil, with the aim of identifying areas for improvement to better align with sociocultural contexts and enhance their impact on dietary choices and public health.

**Design:** A comparative study utilizing the concepts of cultural health communication and culturally sensitive argumentation to analyze the communication materials of FBDGs in both countries.

**Setting:** The analysis focuses on the national FBDGs and associated communication strategies employed in Germany and Brazil.

**Participants:** The study examines how FBDG materials are communicated to policymakers and the general public in Germany and Brazil, without direct participant involvement.

**Results:** The Brazilian Dietary Guidelines (BDGs) show a more complex and culturally sensitive argumentation structure than the German Dietary Guidelines (GDGs). They incorporate multi-layered reasoning and culturally rooted examples, aligning dietary recommendations closely with Brazilian food traditions and social norms. In contrast, the GDGs emphasize scientific authority and offer more straightforward, less culturally embedded arguments. This highlights the BDGs' stronger alignment with local values and practices.

## KEYWORDS

Brazil, communication, argumentation analysis, culture, food-based dietary guidelines (FBDGs), Germany

## Introduction

Industrialized food systems and obesogenic environments pose significant public health challenges, contributing to the prevalence of unhealthy diets and related diseases (Fanzo et al., 2022). Food-based dietary guidelines (FBDGs) aim to promote healthier and more sustainable eating habits (FAO and WHO, 1998). They guide policymakers and educate consumers (Food and Agriculture Organization of the United Nations, 2022), but their existence alone does not ensure changes in societal eating habits (Bechthold et al., 2017; Brettschneider et al., 2021).

FBDGs typically include recommendations on food groups, dietary patterns, and healthy lifestyles, presented as graphical guides like plates or pyramids (Herforth et al., 2019). Their development combines scientific and political processes and considers health outcomes, cultural influences, and food accessibility in a respective nation (Food and Agriculture Organization of the United Nations, 2022; Bechthold et al., 2018; Schwingshackl et al., 2018). Many countries are increasingly adopting a comprehensive approach to FBDGs, integrating guidance on meal combinations, eating habits, food safety, lifestyle factors, and sustainability (Food and Agriculture Organization of the United Nations, 2022; James-Martin et al., 2022). This highlights the critical importance of effective communication and culturally appropriate formulation of FBDGs. According to the European Food Safety Authority (EFSA), FBDGs “(...) should be appropriate for the region or country, culturally acceptable and practical to implement” (European Food Safety Authority, 2010). To achieve this, FBDGs must resonate culturally and become meaningful to individuals within a given nation (Herforth et al., 2019). Despite the critical importance of reviewing the language and tone of FBDGs (Culliford et al., 2023) and integrating cultural factors into the design and implementation of public health interventions (Barrera et al., 2013), the communication of FBDGs to the public – particularly the sociolinguistic dimensions of language use, such as wording and argumentation styles – remains an underexplored area.

Brazil's Dietary Guidelines (BDGs) are a widely recognized example of culturally sensitive FBDGs, integrating scientific principles with cultural and sustainability considerations (Monteiro et al., 2015). This study conducts a comparative analysis of the BDGs and German Dietary Guidelines (GDGs) to evaluate their argumentation structures and degree of cultural sensitivity. While the analysis is comparative, the BDGs serve as a reference point for identifying communicative and culturally grounded strategies that may inform improvements to the GDGs and the development of more effective FBDGs in other contexts.

## Food-based dietary guidelines and culture in Germany and Brazil

### Food-based dietary guidelines and sociocultural dimensions

FBDGs emerged to address the link between diet and health, formalized in 1996 by FAO and WHO guidelines (FAO and WHO, 1998). Today, over 100 countries, mainly wealthier ones, have established FBDGs, which provide evidence-based dietary recommendations to ensure nutrient intake, prevent chronic diseases, and inform health policies (FAO and WHO, 1998; Food and Agriculture Organization of the United Nations, 2022). FBDGs are defined as evidence-based dietary recommendations aimed at ensuring nutrient intake, preventing chronic diseases, and serving as a foundation for nutrition and health policies (Breidenassel et al., 2022). Modern FBDGs also include advice on physical activity, hygiene, and sustainability (Herforth et al., 2019).

Initially nutrient-focused, FBDGs have evolved to address societal, economic, and environmental concerns. Emerging approaches integrate health, sustainability, and cultural contexts, emphasizing the need to revise communication strategies and address

adoption barriers (Bechthold et al., 2018; Culliford et al., 2023; Schäfer et al., 2021). Future FBDGs must incorporate sociocultural and ecological factors while adapting language and tone to align with societal developments (Culliford et al., 2023).

Sociocultural factors, including material aspects (e.g., food production and preparation) and ideational elements (e.g., identity, religion, and social norms), profoundly shape eating behaviors (Bisogni et al., 2002). Cultural values influence perceptions of desirability and norms, driving food choices tied to identity, status, and gender roles (Bisogni et al., 2002). To improve FBDGs' cultural relevance and effectiveness, communication must account for these sociocultural dimensions, ensuring guidelines resonate with diverse populations.

### German dietary guidelines and dietary culture

The German Dietary Guidelines (GDGs), developed by the German Nutrition Society (DGE) and endorsed by federal ministries, were first published in 1956, with the 2017 edition forming the basis of this analysis. In 2024, revised guidelines incorporating nutritional, health, and environmental factors were released. The 2024 edition was not included as it was not yet widely disseminated at the time of the study. Additionally, accompanying materials like the Nutrition Pyramid and Nutrition Circle had not been updated to reflect the 2024 version, and the FAO has not yet listed the 2024 edition. The 2024 GDGs emphasize plant-based nutrition and are based on a new methodology using mathematical optimization to balance health, environmental, and consumption factors (Schäfer et al., 2024; German Nutrition Society, 2024). The 2017 version was used for consistency with existing resources. The 2017 GDGs include three key components: the ‘10 Guidelines for a Wholesome Diet’ (German Nutrition Society, 2023a), the ‘Three-Dimensional Food Pyramid’ (German Nutrition Society, 2023b), and the ‘Nutrition Circle’ (German Nutrition Society, 2023c), all grounded in scientific evidence and D-A-CH (Germany, Austria, Switzerland) nutrient reference values (German Nutrition Society, 2023a).

The ‘10 Guidelines’ provide detailed recommendations for all age groups (excluding infants), while the Food Pyramid combines qualitative and quantitative guidance, presenting optimal food proportions and desirability indicators using traffic light colors (Oberitter et al., 2013). Current dietary practices in Germany, however, significantly diverge from these recommendations, with surveys and discussions highlighting low public familiarity and criticism for being too theoretical (Bechthold et al., 2017; Bechthold et al., 2018; Jungvogel et al., 2016; Godemann and Bartelmeß, 2017).

German dietary culture reflects modern work environments, with high reliance on processed foods driven by mobility and time constraints (Brettschneider et al., 2021; Breidenassel et al., 2022; Max-Rubner-Institut, 2008; Schröder, 2009; Seubelt et al., 2022). Sustainability and health considerations play a minor role for most, though a growing segment opts for diets aligning with specific values (Springmann, 2023). Meat consumption remains high, often exceeding guidelines, particularly for processed meats (Strassner, 2020). Compared to southern Europe, Germany consumes more animal products and processed foods, but it leads the EU in organic food production (Gose et al., 2016) and sees rising demand for organic, fair-trade, and locally produced items.

## Brazil dietary guidelines and dietary culture

The first Brazilian Dietary Guidelines (BDGs) were introduced in 2006, with the current version published in 2014 after a participatory revision process involving multiple societal sectors and international collaboration (Monteiro et al., 2015; Food and Agriculture Organization of the United Nations, 2023). These guidelines, available in English, Portuguese, and Spanish, replaced the food pyramid model with the NOVA classification (Monteiro et al., 2010), which categorizes foods by processing levels rather than nutrient content. This approach emphasizes sociocultural and ecological factors. Unlike traditional guidelines, the BDGs avoid portion-based recommendations, opting instead for visuals like sample meal photographs to depict realistic eating behaviors (Da Oliveira and Da Santos, 2020).

Brazilian dietary culture is shaped by its diverse population, geography, and socioeconomic factors (Monteiro et al., 2015; Sato et al., 2020). While communal family meals remain central, especially lunch, modern influences have increased the consumption of processed foods, now comprising about 30 percent of daily energy intake and contributing to rising obesity rates (Da Louzada et al., 2015). Dining out, particularly at 'kilo restaurants', and snacking are common practices (Barbosa, 2010; Rodrigues et al., 2024). Traditional staples like rice, beans, meat, and vegetables persist as dietary mainstays, reflecting balanced nutrition and cultural heritage (Carrijo et al., 2018). Meat plays a dual role as a nutrient source and social status symbol (Allen and Torres, 2006; Scharnberg Brandão et al., 2015).

Younger Brazilians are more open to modern foods like açaí and ready-made meals, while older generations emphasize traditional preparation methods and home-cooked dishes (Frez-Muñoz et al., 2021). Like global trends, many Brazilians aim for healthier, sustainable diets, though this intent does not always translate to healthier behaviors (Rodrigues et al., 2024).

## Analytical framework

### Cultural health communication

Tan and Cho's (Tan and Cho, 2019) culture-centered framework provides a foundation for culturally sensitive health communication by emphasizing the role of culture in promoting health. It identifies key elements for evaluating FBDGs in sociocultural relevant terms: cultural identity, socioeconomic adaptation, and tailored communication. Cultural identity considers audience beliefs and values, while socioeconomic adaptation addresses structural factors influencing food behaviors. Tailored communication and effective messaging integrate epidemiological insights with cultural values, use sensory elements resonant with the audience, and align language preferences to enhance relevance. This framework supports assessing the cultural appropriateness and effectiveness of FBDGs.

### Cultural-sensitive argumentation

FBDGs aim to encourage healthy eating by presenting specific diets as beneficial, with argumentation playing a crucial role in persuading people to adopt healthy behaviors. In health communication, arguments often rely on implicit cultural justifications

that the audience interprets based on their own cultural beliefs (Hoeken et al., 2018).

Argumentation is a speech act used to clarify issues (van Eemeren and Grootendorst, 2024). According to Toulmin (Toulmin, 2008), a standard-form argument consists of an assertion supported by data, with an explicit or implicit justification connecting the two. In health communication, arguments are often presented as facts, requiring the audience to deduce the justification. These arguments can become culturally sensitive through implicit justifications rooted in cultural beliefs, and linguistically, by using cultural keywords (Kraus, 2009).

Kraus (Kraus, 2009) identifies three cultural elements that make arguments culturally sensitive:

- Values, norms, and institutions from religious, political, or ethical contexts.
- Collective memories, such as cultural history or achievements.
- Standards of social life, including language, customs, and habits.

The sociocultural appropriateness of an argument depends on its reliance on these elements in its premises and justifications (Kraus, 2009). Alternative forms of argumentation, such as appeals to authority ('argument from authority'), examples ('argument from example'), or popular opinion ('argument from popular opinion'), enhance cultural sensitivity by incorporating culturally relevant elements. 'Arguments from example' present cases that resonate with the group's collective memory, while 'arguments from authority' and 'popular opinion' are effective depending on the cultural context and the respect for authority within the group.

Analyzing culturally sensitive argumentation involves examining the structure of the argument. This includes both macrostructures (overall framework) and microstructures (linguistic connections), with cultural sensitivity detectable through specific argumentative patterns, or topoi. Topoi can be formal (shared assumptions) or material (linked to specific content), and they reveal the cultural appropriateness of the message (Andrews, 2015). Understanding the cultural context of these argumentative patterns helps assess the relevance of dietary recommendations, and thus the cultural appropriateness of their formulation.

## Methods

### Data collection and sample

The selection of Brazil and Germany for this comparative analysis is motivated by the distinct approaches each country takes in developing their FBDGs. The BDGs are recognized globally for their integration of cultural sensitivity, sustainability, and scientific evidence, making them a valuable model for exploring how FBDGs can resonate with local food traditions and practices. In contrast, the GDGs primarily focus on scientific authority and a more standardized approach to nutrition, which may not fully account for cultural differences and local dietary habits. While both countries face public health challenges related to diet-related diseases, the focus of this study is on how the cultural sensitivity of dietary guidelines can influence their effectiveness in promoting healthier eating behaviors rather than solely on obesity or overweight rates. This comparison

highlights how cultural considerations in FBDGs can enhance their relevance and impact.

The text analyzed was based on a closed synchronous corpus of official FBDG documents from Germany and Brazil. For Brazil, the analysis focused on the ‘Dietary Guidelines for the Brazilian Population’ published in English (Ministry of Health of Brazil, 2015). The German FBDGs were represented by three documents: the ‘10 Guidelines of the DGE’ (German Nutrition Society, 2023a), the ‘Three-Dimensional Food Pyramid’ (German Nutrition Society, 2023b), and the ‘Nutrition Circle’ (German Nutrition Society, 2023c). As the Brazilian document is more comprehensive, the German analysis also included the online explanation of the ‘10 Guidelines of the DGE’ (German Nutrition Society, 2023a) from the DGE website. Screenshots of these website texts were saved in PDF format for processing with MAXQDA Analytics Pro 2022. Additionally, the ‘Three-Dimensional Food Pyramid’ was reduced to the last page, which contained the main information excluding the educational elements.

Both countries’ FBDGs consist of ten key recommendations: the ‘10 Guidelines of the DGE’ for Germany and ‘Ten Steps to Healthy Diets’ for Brazil. Ten theses were derived from the core messages of each document, listed in Tables 1, 2 with thesis numbers (e.g., T1D) and English paraphrases.

## Corpus comparison

Each corpus was initially analyzed separately, with a focus on the cultural context, eating habits, and public health issues relevant to each country. This knowledge was derived from desk research, which examined existing literature and data on the local dietary patterns, health concerns, and cultural practices of Brazil and Germany. For example, the Brazilian guidelines were compared to the local context of Brazil, considering the country’s dietary patterns, health concerns, and cultural practices. Similarly, the German guidelines were analyzed against Germany’s own dietary habits and public health

TABLE 1 German dietary guidelines-theses (derived from the ‘10 Guidelines of the DGE’).

No.	Thesis
T <sub>1D</sub>	A diverse, predominantly plant-based diet is recommended.
T <sub>2D</sub>	Consuming five servings of fruits and vegetables is advisable.
T <sub>3D</sub>	For cereal products, the whole-grain variant is the best choice for health.
T <sub>4D</sub>	Supplementing the selection of plant-based foods with a small number of animal-based foods is recommended.
T <sub>5D</sub>	The mindful selection of fat sources promotes health.
T <sub>6D</sub>	Foods and beverages rich in sugar and salt are not recommended.
T <sub>7D</sub>	Water is the best choice as a beverage.
T <sub>8D</sub>	Gentle food preparation methods are recommended.*
T <sub>9D</sub>	Mindful eating is advisable.
T <sub>10D</sub>	Engaging in physical activity is recommended.

\*The term ‘gentle food preparation methods’ refers to cooking techniques designed to preserve the natural nutrients of foods and avoid harsh preparation methods such as deep frying at high temperatures. While this term is less commonly used in academic and professional health communication, it is frequently discussed in popular conversations about healthy eating, especially by health influencers.

challenges. Only after this initial analysis was a direct comparison between the two corpora conducted, based on the results of the argumentation analysis, to highlight the differences in their approaches to cultural sensitivity and public health communication.

## Qualitative argumentation analysis

The analysis follows a two-stage qualitative approach to reconstruct the macrostructure and microstructure of the argumentation in the FBDGs’ communication. For the macrostructure, we developed argumentation structures for paraphrased contentious theses, coding succinct statements. Categories were derived deductively from theoretical considerations and applied to the text using a coding guide. Argumentation diagrams were created, positioning theses as starting points and arranging arguments chronologically.

For the microstructure, we built upon the first stage, reconstructing it using the argumentation diagrams. The category system for this was based on Kraus (Kraus, 2009), with formal topoi defined deductively and supplemented with examples and coding rules. The ‘standard-form’ category (Toulmin, 2008) was included to identify culturally sensitive arguments, based on Tan and Cho (Tan and Cho, 2019). The evaluation unit encompassed all arguments related to a thesis, highlighting adherence to formal topoi. Coding units were paraphrases from the diagrams.

To ensure transparency, all text passages in each category were compiled in MAXQDA at the argument level under the category ‘culturally sensitive’. Arguments not fitting the categories were labeled ‘not culturally sensitive’. Results were presented by highlighting culturally sensitive arguments in the diagrams with distinct color coding.

TABLE 2 Brazil dietary guidelines-theses (derived from the ‘Ten Steps to Healthy Diets’).

No.	Thesis
T <sub>1B</sub>	As the foundation of nutrition, a diverse, predominantly plant-based selection of natural or minimally processed foods is recommended.
T <sub>2B</sub>	The use of oil, fat, salt, and sugar in small amounts in the preparation of natural or minimally processed foods is advisable.
T <sub>3B</sub>	Limiting the consumption of processed foods to a small quantity as an ingredient in dishes and meals based on natural or minimally processed foods is recommended.
T <sub>4B</sub>	Avoiding the consumption of highly processed foods is recommended.
T <sub>5B</sub>	Regular and mindful eating in an appropriate environment and in the company of others is recommended.
T <sub>6B</sub>	Shopping at locations that offer a variety of natural or minimally processed foods is recommended.
T <sub>7B</sub>	Developing, practicing, and sharing cooking skills is advisable.
T <sub>8B</sub>	Planning the timing of meal preparation and consumption is recommended.
T <sub>9B</sub>	Self-service establishments that serve freshly prepared meals as buffets and charge by weight are preferable for out-of-home dining compared to fast-food restaurants.
T <sub>10B</sub>	Exercising skepticism towards food advertising and marketing is recommended.



## Results

The comparative analysis of the GDGs and BDGs focuses on argumentation structure in two stages: macrostructure and microstructure, followed by a discussion of cultural sensitivity in each microstructure, with examples to illustrate the comparison.

### Argumentation structures

#### Comparison of the macrostructure of the GDGs and BDGs

The GDGs show less complexity than the BDGs. The BDGs have greater breadth and depth in argumentation, offering multiple levels of support for statements (cf. Figure 1). A higher level of argumentation implies that, for previously presented arguments, at least one additional argument is provided to bolster a particular statement.

For example, GDG theses T2D and T3D are supported by a single argument, while other GDG theses extend to the second or third level. In contrast, BDG theses, especially T4B (about avoiding processed foods), often span five levels of argumentation. While some BDG theses, like T2B and T3B, provide fewer justifications, neither the GDGs nor the BDGs present any unsupported theses.

#### Comparison of the microstructure of the GDGs and BDGs

The BDGs feature more formal argumentation, with greater cultural sensitivity than the GDGs. Culturally sensitive arguments in the GDGs appear mainly in T4D and T7D, using ‘argument from example’ to link food to nutrition. The GDGs rarely use ‘argument from popular opinion’ or ‘argument from authority’.

In contrast, the BDGs consistently incorporate culturally sensitive arguments, particularly through ‘argument from

authority’, rooted in cultural, historical, and traditional practices, especially for promoting plant-based diets (e.g., T1B). The BDGs also use ‘argument from example’ to reference specific dishes, adding a broader cultural context. Both guidelines reflect the influence of cultural norms in shaping dietary recommendations, with ‘argument from popular opinion’ being minimally used in both.

### Culturally sensitive argumentation

#### Arguments from example

The use of the ‘argument from example’ is prevalent across all ten GDGs, with specific food items like eggs, yogurt, and oily fish frequently cited as nutrient providers (cf. Figure 2 and Supplementary Figure S1).

These examples are culturally contextualized, reflecting traditional German dietary practices, which may enhance the guidelines’ persuasive impact on individuals familiar with German culinary norms.

The GDGs also use this argument concerning thesis T6D (‘foods and beverages high in sugar and salt’) and thesis T7D (‘water’). Here, examples are used negatively to highlight the health risks of certain foods and beverages, emphasizing avoidance rather than endorsement. The argument referencing tap water (“In Germany, drinking water comes straight from the tap”) highlights a culturally specific practice, which may be less applicable to populations with limited access to potable water. Further elaboration on the environmental benefits of tap water, such as cost efficiency and sustainability, reflects practical dietary priorities in Germany (Schröder, 2009).

Comparisons between dietary recommendations and common practices in Germany, such as the statement “a predominantly

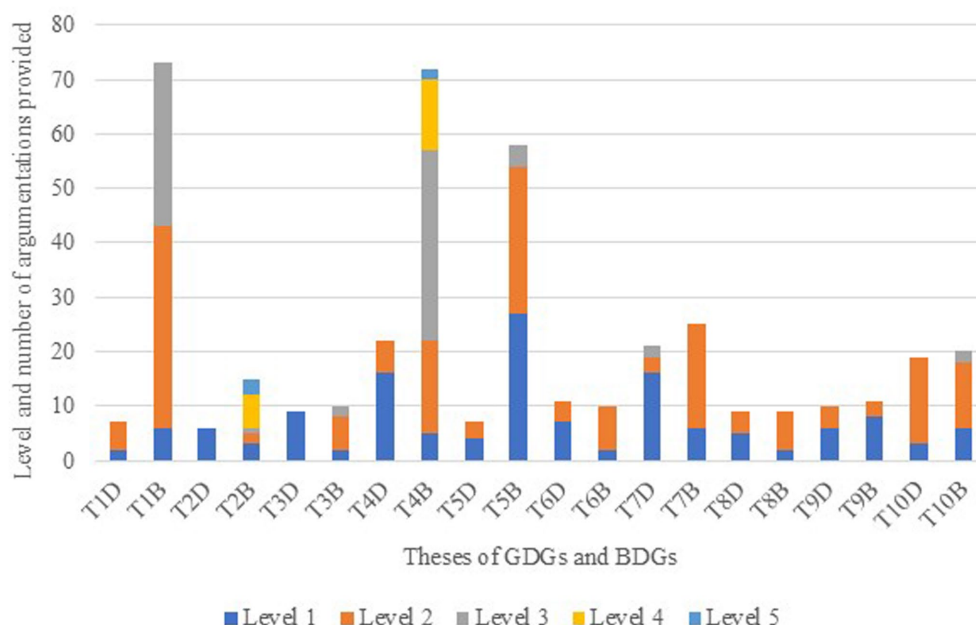


FIGURE 1  
Macrostructure of the theses of the GDGs (T#D) and BDGs (T#B).

plant-based diet according to the recommendations of the DGE has less impact on the environment and the climate than the average diet in Germany,” resonate with the growing focus on sustainability (Springmann, 2023; Gose et al., 2016). This argument also addresses the issue of excessive meat consumption, a characteristic aspect of German diets (Strassner, 2020). Similarly, the justification for limiting animal-based foods (thesis T4D) is supported by evidence on the health risks of high red meat and processed meat consumption, such as the statement, “People who eat a lot of red meat and sausage have a higher risk of bowel cancer.”

In contrast, the BDGs often use “arguments from example” that emphasize culturally significant foods, like the traditional Brazilian dish ‘Tu-tu’ to support thesis T1B (cf. Figure 3).

This dish, a staple in both home and public settings, exemplifies Brazilian culinary practices (Barbosa, 2010). The BDGs also highlight the cultural significance of combining cereals, legumes, vegetables, and tubers, while acknowledging the role of meat in Brazilian cuisine (Allen and Torres, 2006). By aligning recommendations with these culturally ingrained practices, the BDGs reinforce their relevance to Brazilian identity.

The BDGs also integrate contemporary eating habits, such as dining at self-service ‘kilo-restaurants’, reflecting modern values of choice and autonomy (Barbosa, 2010). While the GDGs focus more on health risks, BDGs tend to emphasize positive or neutral examples of dietary patterns. For instance, thesis T5B underscores the social and cultural importance of communal dining, emphasizing family and colleague gatherings. Additionally, the BDGs address barriers to health-promoting practices, such as gender norms in meal preparation, encouraging shared responsibilities within families (Sato et al., 2020).

Further, arguments from example in the BDGs address time constraints and reliance on processed foods (Barbosa, 2010), and critique advertising for processed foods, aiming to raise public awareness about misinformation, particularly in contexts like TV viewing.

## Standard-form arguments

Standard-form arguments structured according to the Toulmin schema play a crucial role in legitimizing nutritional recommendations in both GDGs and BDGs. In the GDGs, this argumentation supports Thesis T5D, which advocates for the health

benefits of selecting specific fat sources. Dietary practices such as the use of spreads are emphasized, reflecting the cultural importance of bread and spreads in German breakfasts and evening meals (Strassner, 2020). However, some arguments for this thesis, such as the claim that “a targeted selection of the fat source ensures the supply of vitamin E,” lack cultural relevance, potentially limiting their effectiveness.

The GDGs also incorporate cost-saving considerations in arguments for water consumption (T7D), gentle food preparation (T8D), and mindful eating (T9D), aligning with the cultural importance of financial concerns in dietary decisions (Schröder, 2009). For T8D, the argument that “gentle preparation preserves the natural flavor” reflects a cultural value, but given the prevalence of industrially processed foods in Germany (Schröder, 2009), its resonance may be limited.

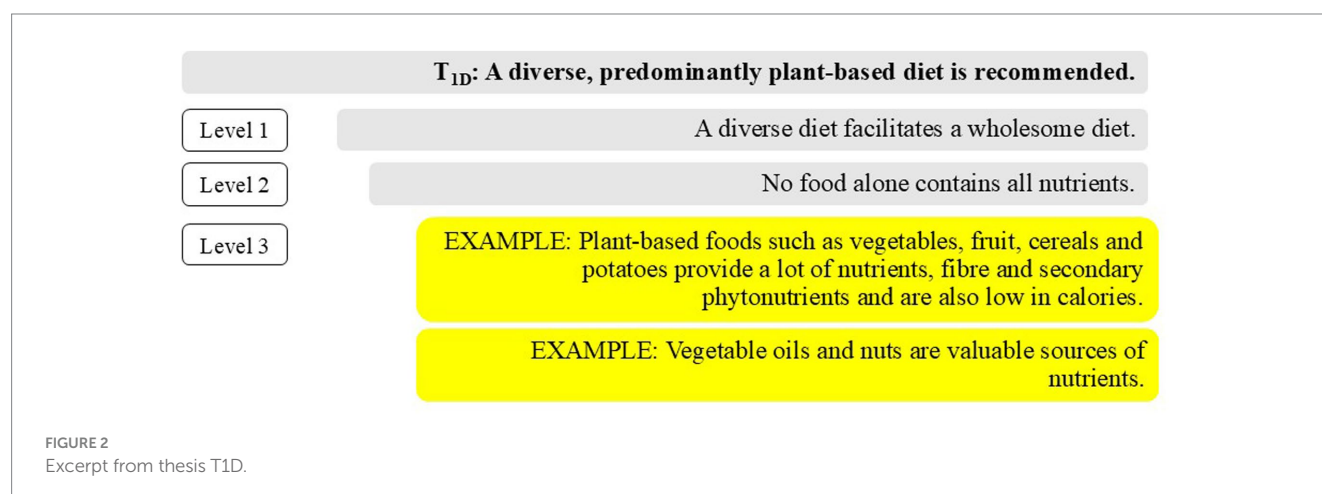
In contrast, the BDGs integrate flavor with culturally significant ingredients, such as garlic, onions, and herbs, in their arguments for Thesis T1B. They also address broader sociocultural issues, linking highly processed foods to isolated eating behaviors in Thesis T4B and emphasizing the cultural importance of communal meals in thesis T5B.

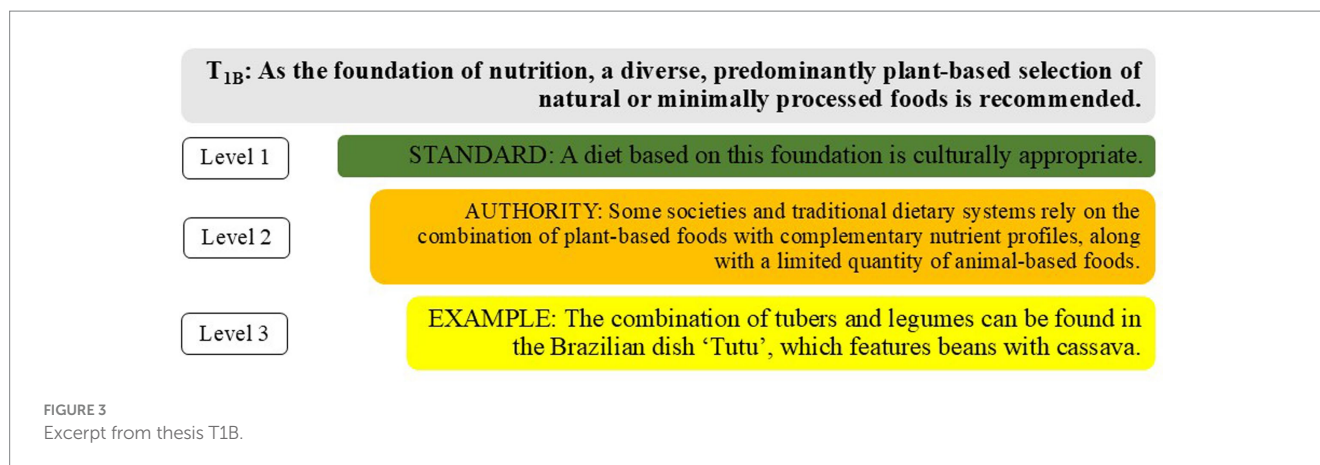
The BDGs also consider societal changes, such as women’s increased labor market participation (Scharnberg Brandão et al., 2015), time constraints, and the erosion of cooking skills (T7B). In Thesis T6B, economic considerations highlight the cost-effectiveness of natural foods over processed ones.

In comparison, while the GDGs adopt a more technical approach with limited sociocultural references, the BDGs directly engage with evolving dietary practices and cultural values, making their argumentation more culturally sensitive.

## Arguments from authority

‘Arguments from authority’ play a minimal role in the cultural appropriateness of the GDGs communication, being employed only once and specifically referencing science as the authoritative source. This limited use is consistent with the GDGs’ overarching emphasis on deriving all recommendations from scientific evidence. However, legitimizing recommendations solely through the authority of science may be less culturally appropriate, as scientific findings are not a primary factor influencing individual dietary choices in German dietary culture.





In contrast, the BDGs extensively utilize arguments from authority, particularly in support of Thesis T1B (“predominantly plant-based and minimally processed foods”) (cf. [Supplementary Figure S2](#)). The authorities cited often represent culinary traditions from diverse Brazilian subcultures and international regions (e.g., the Amazon, Africa, and Asia). However, references to external societies or dietary systems may lack persuasive power for individuals within Brazilian dietary culture unless these external influences are perceived as aspirational or exemplary. While the communicators assume that exposure to practices from other cultures could motivate adherence to the recommendations, the cultural appropriateness of these arguments remains questionable, as their formulation may not resonate with the target audience.

### Arguments from popular opinion

In the GDGs, arguments supporting Thesis T8D (‘gentle preparation’) and T9D (‘mindful eating’) incorporate rationales that align with prevailing public opinion on sustainable nutrition. The structure of these arguments reflects widely held views, particularly in the context of ecological awareness within the German population ([Hirschfelder and Pollmer, 2018](#)). However, it remains difficult to precisely determine the extent to which the German public understands concepts such as ‘gentle preparation’ (“Gentle preparation also means saving energy when cooking.”) or ‘mindful food handling’ (“Part of a mindful approach to food is not throwing it away,” cf. [Supplementary Figure S3](#)), and whether the GDGs’ reasoning accurately reflects the popular opinion. Previous studies indicate that individuals form personal perceptions regarding health ([Hirschfelder and Pollmer, 2018](#)) and sustainability, which shape their nutritional practices. As a result, the statements within these arguments, though following a formal topos, cannot be universally considered culturally appropriate, given the ambiguity surrounding the values and ideas they aim to address.

In contrast, the ‘argument from popular opinion’ in the BDGs, which supports the reduced use of oil, fat, salt, and sugar, can be viewed as consistent with widely held beliefs in Brazilian dietary culture (cf. [Figure 4](#)).

Preferences for these cooking and seasoning ingredients are often seen as biologically driven behavioral tendencies. The Brazilian dietary culture does not present any contradictions to these biological mechanisms ([Barbosa, 2010](#)). Therefore, the BDGs recognize that

while oil, fat, salt, and sugar are generally perceived as essential ingredients, they advocate for their moderate use in line with popular opinion.

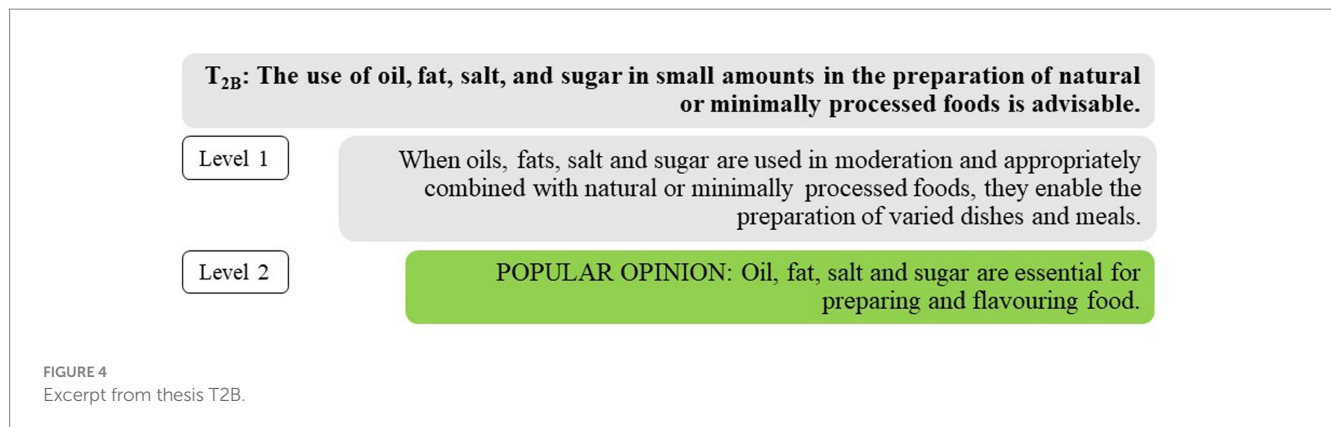
## Discussion

This comparative analysis of the GDGs and BDGs highlights the critical role of cultural sensitivity in the development and communication of FBDGs. Both guidelines aim to improve public health by promoting healthier eating behaviors, but their success depends on how effectively they address local cultural practices, values, and food traditions.

### Cultural sensitivity in argumentation structure

A key difference between the GDGs and BDGs lies in their argumentation complexity. The GDGs generally present simpler, less detailed arguments. This limited depth may reflect the German focus on scientific evidence and objective recommendations ([Bechthold et al., 2018](#); [Jungvogel et al., 2016](#)), which, while crucial, may not be sufficiently compelling for all members of the population ([Godemann and Bartelmeß, 2017](#)). The GDGs’ reliance on clear, straightforward guidelines may fail to address the nuanced cultural context of dietary habits in Germany, where increasing reliance on processed foods and changing work environments complicate traditional eating patterns ([Schröder, 2009](#)).

In contrast, the BDGs incorporate a far more complex argumentation structure, with many recommendations spanning multiple levels of reasoning. This greater depth allows the BDGs to provide a broader range of supporting evidence, not only from scientific research but also from cultural and traditional practices ([Da Oliveira and Da Santos, 2020](#)). The extensive use of culturally relevant examples, particularly those linked to Brazilian food culture and communal eating practices, contributes to the BDGs’ ability to resonate with the target audience ([Rodrigues et al., 2024](#); [Monterrosa et al., 2020](#)). This cultural resonance enhances the guidelines’ appeal and their alignment with contemporary Brazilian dietary practices, including the integration of traditional and modern approaches ([Monterrosa et al., 2020](#)).



## The role of cultural examples and authority

The study highlights the differing use of ‘arguments from example’ in the GDGs and BDGs. The GDGs primarily use this strategy to emphasize the health risks of certain foods, such as excessive meat or sugar intake. While these examples reflect specific health concerns in German dietary habits (Strassner, 2020), they may be less effective in promoting lasting behavior change, given the growing influence of convenience foods and busy lifestyles in Germany (Max-Rubner-Institut, 2008; Springmann, 2023). Focusing on health risks may also overlook the potential to promote positive cultural practices and the benefits of healthier eating in a relatable way.

In contrast, the BDGs make extensive use of positive examples drawn from Brazilian culinary traditions. Dishes such as ‘Tutu’ and traditional combinations of legumes, vegetables, and grains are highlighted as both culturally significant and nutritionally beneficial (Da Oliveira and Da Santos, 2020). These positive, culturally grounded examples enhance the appeal of the guidelines by aligning with the values and habits of Brazilian consumers (Scharnberg Brandão et al., 2015). Moreover, the BDGs’ argumentation strategy reflects an understanding that dietary changes are more likely to be adopted when they are framed in a positive light, linked to cultural identity, and aligned with social norms (Bisogni et al., 2002; Monterrosa et al., 2020).

The use of ‘arguments from authority’ further distinguishes the two guidelines. The GDGs predominantly reference scientific evidence, while the BDGs draw on a broader range of authorities, including cultural traditions, historical practices, and international influences. This wider use of authority enhances the credibility of the BDGs, particularly in Brazil’s diverse cultural context (Monteiro et al., 2015). However, reliance on external sources may limit their effectiveness unless they are perceived as aspirational or aligned with local values.

## Addressing sociocultural factors

The GDGs address limited sociocultural factors, primarily focusing on nutrient supply and disease prevention, which may fail to engage individuals on a personal level. By contrast, the BDGs consider broader societal shifts, such as increased female workforce participation and the erosion of traditional cooking skills, making the guidelines more relevant to contemporary Brazilian life (Da Louzada et al., 2015; Monterrosa et al., 2020). The BDGs’ attention to time

constraints and modern food practices, like ‘kilo-restaurants’, further demonstrates their cultural sensitivity. By highlighting these factors, the BDGs connect more directly with the lived experiences of Brazilian consumers, making the guidelines not only scientifically sound but also socially and culturally attuned (Barbosa, 2010; De Carvalho et al., 2020) and show flexibility and adaptability to changing social realities (Monterrosa et al., 2020).

The GDGs, by contrast, focus less on these issues, offering only indirect references to sociocultural factors like sustainability and mindful eating. This difference highlights the need for future guidelines to consider not only the nutritional needs of a population but also the broader societal context in which food is consumed (Culliford et al., 2023).

## Implications for effective communication

The effectiveness of FBDGs depends on both scientific rigor and cultural relevance. While the GDGs may appeal to those prioritizing scientific evidence, their limited cultural engagement risks alienating those whose food choices are rooted in cultural practices. The BDGs, by integrating cultural values and social norms, are more likely to resonate with the target population, enhancing the guidelines’ acceptance and adherence. For future FBDGs, it is crucial to integrate culturally sensitive arguments and examples to increase their effectiveness in diverse settings.

## Limitations and recommendations for future research

This study has several limitations. It focuses on a qualitative comparison of the GDGs and BDGs, which may not fully capture how these guidelines are implemented or received by the general population. The analysis centers on structural and argumentation differences, without considering external factors like socioeconomic status, education, or regional variations. Additionally, while cultural sensitivity is emphasized, the study does not assess the effectiveness of the guidelines in changing dietary behaviors. It is also limited by the availability of the most recent GDGs, which were not included in the analysis.

Future research could explore the impact of culturally sensitive guidelines on dietary behavior and public health outcomes, using



longitudinal or intervention-based studies. Analyzing the reception of updated GDGs and BDGs, particularly any revisions to the pyramid, food circle, and communication materials, would provide insights into how these changes align with current sociocultural perceptions. Comparative studies with other countries' guidelines could also deepen the understanding of cultural sensitivity in global nutrition policy.

## Conclusion

The comparative analysis of the GDGs and BDGs highlights the importance of cultural sensitivity in FBDGs' effectiveness. While the GDGs provide valuable scientific guidance, they could benefit from more culturally relevant examples and broader social context. In contrast, the BDGs excel in integrating culturally grounded argumentation, balancing scientific rigor with cultural resonance. As global public health challenges evolve, developing FBDGs that address sociocultural factors and reflect local dietary practices will be crucial for promoting healthier, more sustainable eating behaviors worldwide.

## Data availability statement

The data analyzed in this study can be found online on the respective websites of the institutions. All URLs to access the websites can be found in the article/reference list.

## Author contributions

IH: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing. TB: Conceptualization, Supervision, Writing – original draft, Writing – review & editing.

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## Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcomm.2025.1570885/full#supplementary-material>

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