

THE INFLUENCE OF TELEVISION ON THE EATING HABITS OF BRAZILIAN NORTHEAST CHILDREN

Sophia Motta-Gallo¹, Paulo Gallo¹, Angela Cuenca¹

Abstract

Objectives: the aim is to assess caregivers' perceptions about the influence of television on the eating habits of children from the socially vulnerable Northeast region of Brazil. **Methods:** a total of 14 semi-structured interviews were conducted with caregivers. The participants included parents and grandmothers of 29 schoolchildren from a public school on the outskirts of a town in the Agreste Meridional in Northeast Brazil. The interviews were transcribed and analysed in the light of socio-historical theory based on the work of Vygotsky (1984) and Bakhtin (2001). **Results:** the caregivers explained the influence of televised food advertisements on children's requests for food and the criteria children use to choose foods. The caregivers also observed that the family's buying decisions were governed by the children's requests, which are driven by television advertisements. Furthermore, the children's food preferences (i.e., the structure and rhythm of children's meals) have changed because of the influence of the media. **Conclusions:** although caregivers are able to describe the influence of television on the eating habits of children, the magnitude of this influence on children's lives is still unclear. Understanding the magnitude of this influence is the challenge posed by this study to professionals, experts in the field, and the Brazilian health system.

Key words: public health; children; eating behaviour; consumer habits; television; qualitative.

INTRODUCTION

From birth, children's eating habits are influenced by factors outside the family environment. Studies have investigated eating as a behaviour that is influenced by food advertisements^{1, 2}.

Despite the economic and sociocultural inequalities in the Brazilian population, globalisation has created universal access to the media which technological advances have enabled socially vulnerable even populations to access. The influence of the media has thus transformed the material conditions of life by people's habits.

Giddens³ names this phenomenon *reflexivity*. Castells⁴ calls universal media access the *culture of real virtuality*. In this scenario, collective intelligence, a term coined by Levy⁵, has become a consensus, with the media acting as the invisible thread that intertwines consciousness, space, questions, and wishes⁶.

In this context, television is a communication tool. Television is the most affordable

vehicle for delivering information to the Brazilian population, given its coverage: ... "reaching a total of 5,565 municipalities and 95.1% of households, television is the main link between the public and the world, having an immeasurable impact on Brazilian society"⁷.

Thus, there is a need for studies that seek to understand the influence of television on eating behaviours and the eating habits of Brazilian children. This study was designed to determine caregivers' perceptions of the influence of television on the eating habits of Brazilian children.

METHODS

For this descriptive qualitative study, we conducted interviews with caregivers of school-age children from the suburbs of the municipality of Garanhuns in the State of Pernambuco in the Agreste Meridional region of northeastern Brazil.

¹ Department of Maternal and Child Health, School of Public Health, University of São Paulo, Sao Paulo, Brazil.
Corresponding author: Sophia Motta-Gallo

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RESEARCH CONTEXT

Pernambuco is a state in Brazil that consists of 185 municipalities and is divided into macro-regions with specific geopolitical and cultural traits. The state's semiarid climate creates a diversity of shapes and colours among the residents of this region⁸.

The Agreste Meridional is considered a socially vulnerable region⁹. The Human Development Index (HDI) of Brazil is 0.718, but the HDI of Pernambuco is 0.652. For reference, Norway had the highest HDI in 2011 (0.943); Brazil ranked 73rd among 169 countries¹⁰.

Garanhuns, the regional seat of the Agreste Meridional, is known as the Brazilian Switzerland for the following characteristics: a) climate (*ranging from 18° - 5°*) and b) topography (*a semi-arid city located between seven hills at 1.030 m altitude*). Garanhuns is notable for being the largest milk collection centre in the state, accounting for 70% of Pernambuco's local dairy production and serving as the site of the most important dairy operations in Brazil¹⁰.

However, there are also areas of extreme poverty in the outskirts of the town. These areas have black ditches, open sewers, and houses

without access to treated water coexisting with subsistence farming, differentiating this region from the coastal and metropolitan areas where the residents plant such crops as beans, corn, and cassava¹⁰.

Although this region is the most prosperous region of the Agreste, it is also characterised by extreme poverty; for this reason, this region was chosen for this study.

Participants

A total of 14 caregivers (mothers, fathers, and grandparents) participated in this research, representing a subsample of caregivers with more than one child (7-9 years old). These participants were selected in a random drawing from among 29 families of students enrolled in the 2nd grade of a public elementary school in the urban periphery of the municipality of Garanhuns, PE.

Because studies have shown that fathers, mothers, and grandmothers feed their children and grandchildren differently¹¹, and although mothers tend to be the primary caregiver¹², we included all of these individuals as caregivers this study (table 1). This decision is in accordance with the Statute of Children and Adolescents (Estatuto da Criança e do Adolescente – ECA) (Federal Law

Table 1: socio-demographic characteristics of caregivers selected for the study, by identification code. Garanhuns. Northeastern Brazil, 2009

ID ϕ (identific. code)	Age (years)	Relationship	Ethnicity	Education*	Children (number)	Family income# (minimum age [R\$])	Type of Housing
S1	62	grandmother	white	1	1	1	own
S2	35	mother	brown	2	2	2	rented
S3	35	mother	brown	2	1	2	rented
S4	40	mother	brown	2	1	2	rented
S5	27	mother	brown	2	2	2	rented
S6	29	mother	brown	2	1	2	rented
S7	48	mother	brown	2	2	2	rented
S8	44	grandmother	brown	2	2	2	rented
S9	29	mother	black	2	1	2	other
S10	29	mother	brown	2	1	2	rented
S11	34	father	white	1	3	1	rented
S12	ND+	grandmother	brown	2	2	2	rented
S13	ND	grandmother	brown	2	1	2	rented
S14	62	grandmother	brown	1	2	1	rented

ϕ Respondents; + = Age unreported; ξ = male caregiver; * 1 = Completed 2nd grade or higher, 2 = Completed less than 2nd grade; # 1 = \geq 1SM to 2 SM, 2 = \leq 1SM.

No. 8069/90 - This federal law guarantees the rights of children and adolescents to access a food and parental care), which considers parents, and grandmothers to be responsible for caring for their children.

This study was approved by the Regional Education Management of Agreste Meridional (Gerência Regional de Educação do Agreste Meridional - GRE 11) and by the administration of the school. The project was approved by the Research Ethics Committee of the School of Public Health, University of São Paulo, Sao Paulo, Brazil. All of the respondents provided informed consent to participate in the study.

A topic guide was created to assist the caregivers in describing the influence of television

Table 2: Topics covered in the interview with the caregivers selected for this study. Gara-nhuns. Northeastern Brazil, 2009

<p>(1) Information about the study and Statement of Free and Informed Consent (SFIC)</p> <p>Through a letter of invitation, the researchers invited the caregivers to participate in a study investigating the influence of television on the diet and consumption habits of children in daily life. The caregivers were informed (SFIC) about the research objectives and told that the researchers had been authorised by Regional Education Management of the Agreste Meridional (GRE 11) with the support of the School Administration.</p>
<p>(2) Food preferences of children</p> <p>The caregivers were asked to describe what the children like to eat and drink and whether they perceive any influence of television on children's food preferences.</p> <p>Questions: What does the child like to eat? What does the child like to drink? In your opinion, do food advertisements influence the children's food preferences? In what way?</p>
<p>(3) Consumption demands of children</p> <p>The caregivers were asked to describe the foods that the children ask to buy, the motivation behind their choices (brand/price), the child's preferred brands, and which of the foods that the children ask to buy are advertised on television.</p> <p>Questions: What foods do the child to buy? For the foods that the child to buy, is the choice made by the brand or the price? Which brands does the child prefer? In your opinion, what is the motivation for purchasing the food?</p>

on the food preferences and consumption habits of children. The caregivers were also asked about their

perceptions of children's requests (i.e., their consumption demands and what the children ask to buy). The interview topics are described in table 2.

The questions were open-ended, and the interview guide was flexible. In general, such phrases as "can you say more?" encouraged the respondents to continue. The participants were informed that there were no right or wrong answers and that all information they provided was anonymous¹².

The caregivers were also encouraged to consider all of the children they cared for who were enrolled in the study school. The interviews, each of lasted between 15 and 30 minutes in length, were recorded. In the transcription all spoken and non-verbal expressions were included. Data collection was conducted until thematic saturation was reached¹².

Analysis

We produced an in-depth description of caregivers' experiences with children's food preferences and the influence of television. These results provided the framework for thematic analysis ¹². The transcripts were coded using semantic analysis (surface meaning) and latent analysis (between-the-lines ideas, assumptions, and concepts) while rereading the transcripts using a dialogical approach¹³.

To compose the thematic framework, a broad set of codes was created based on theories by Castro⁸, Bauman ^{14, 15} and Beck¹⁶. The frameworks were reviewed by three researchers to avoid interpretation bias. To ensure that the data reflected the perceptions of the respondents, the codes and the themes were generated separately. The results were compared to verify the similarities and the differences among them¹².

The analysis of the responses was substantiated using socio-historical theory proposed by Vygotsky ¹⁷ and Bakhtin¹⁸, a theoretical framework that enabled us to understand the caregivers' perceptions.

Table 3: Caregivers' perceptions about the food preferences of children and the influence of television. Garanhuns. Northeastern Brazil, 2009

<p>a) Children's food preferences (structure and rhythm of meals)</p> <p>"Early morning, when waking up, soda. Rice, pasta, and roasted meat. "At dinnertime, soda." (ID S2). "He likes milk with coffee, bread, and biscuits" (ID S5). "The television is in the dining room, and he eats watching television. When he is not watching television, he does not want to eat" (ID S6). "At lunch, if you give him fruits and vegetables, he does not want it" (ID S14). "When he is hungry, he asks for meat, beans. At dinner: rice, beans. Sometimes</p>
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he drinks milk with biscuits, eats bread with eggs, cheese, and cake" (ID S13). "Chocolate milk, fries. He likes to eat junk food: lollipops, candy, potato chips" (ID S3). "Chocolate cookies, ketchup, mustard, sausage, ham, and he also likes cheese" (ID S1). "Cookies, yogurt, soda, cake, Miojo. He does not like real food" (ID S9). "The influence of advertising is like this: it creates a specific wish in the child; a curiosity to know what it tastes like" (ID S11). "When it is shown on television, then he will want to eat what is on television. They advertise yogurt, soda, cookies. The child just wants to eat what is on television. If you buy a different brand, he does not eat it. He says it's bad" (ID S9).

b) The influence of television on consumer demand

"At first, he was crazy for juice, now he just wants to drink chocolate milk (Nescau) and a Geladinho. Everything is Coca-Cola" (ID S1). "A lot of soda and juice. He does not drink anything. Just wants Jatoba soda" (ID S3). "Juice and soda. Coca-Cola is also the best!" (ID S6). "Guarana, Fanta, these things... Todinho, I know that is good. Danone Crackers" (ID S5). "Parmalat yogurt" (ID S7). "To drink, lemon water with SpongeBob" (ID S14). "He asks to buy candy, cookies, stuff like that...Biscuits, candy, soda. Sometimes yogurt, Todinho. That's all" (ID S9). "He asks to buy yogurt, Miojo, salgadinhos" (ID S7). "They ask for cookies, snacks, soda" (ID S6). "Ask for apples, Miojo, Nestlé chocolate" (ID S10). "He asks for Danones and the crackers that are shown on television...He likes to buy foods that have toys and trading stamps" (ID S1). "He asks to buy Danone, crackers, Todinho" (ID S12). "He always asks for ice cream and soda" (ID S7). "Just recently, the last time he was with me in the supermarket, he asked for Danone Activia that helps with constipation" (ID S11).

c) The influence of television on the motivation of the purchase (price x brand)

"They do not understand whether that brand is good or not. When he sees, he sees the cracker" (ID S7). "I like to choose like this: the best...You cannot always look at the brand" (ID S10). "If I have money, I like to buy the better one" (ID S4). "Before, I would choose according to the price. However, today there are advertisements that influence the child. If you buy a different brand, he says it's bad. He did not even try it, but rejects it. Just because there is a commercial on television" (ID S1).

d) The influence of television on the criteria for choosing foods

"He chooses the food because of the commercial, by the presentation of the package. I think it draws his attention. Salgadinhos usually come with those toys, those little cards" (ID S6). "He knows all the food that comes with toys. He wants them all. He does not want the food. He just wants the toy" (ID S14). "When she watches some commercial for chocolate cookies, then she asks: Mom, can you buy those?" (ID S8). "When he sees something on television, he asks to buy it. If you buy something different, he asks: Why didn't you buy that one?" (ID S3).

RESULTS AND DISCUSSION

The results of our analysis showed that caregivers perceive that television influences the eating habits of children.

As shown in table 3, children are encouraged by advertisements "(...) *that are shown on television*" (ID S1), although family income is a stronger influence, given the socioeconomic profile of the families in this study. (Strikingly, family income in this region is less than twice the legal minimum wage, i.e. US\$ 391.77 – 2009).

Thus, children stop creating their own toys and start to request toys that are associated with food. "*He knows all the food with toys (...) He does not want the food. He just wants the toy*" (ID S14).

The purchasing decisions of caregivers are regulated by advertisements. "*When he sees something on television, he asks to buy it*" (ID S3). The preferences and eating habits of children are influenced by what is shown on television. "*He chooses food because of the commercial (...)*" (ID S6).

In this context, the caregiver's choice of food no longer depends on knowledge about nutritional information, food traditions, or home economics (and family income in this region is less than twice legal minimum wage).

Table 4: Caregivers' perceptions of children's lifestyles and eating habits and the influence of television. Garanhuns. Northeastern Brazil, 2009

a) Regarding the presence of television during meals

"Because the children were raised in front of the television...They wake up watching television. Go to sleep with the television on. The child is influenced by television; even the Danones and the crackers have to be the ones shown on television. The child just wants to eat what is on television. Today, children no

longer want to sit at the table. Just in front of the television" (ID S1). "He dines watching television" (ID S2). "Have lunch and dinner watching" (ID S3, ID S9). "The television is in the dining room, and he eats watching television. When he is not watching television, he does not want to eat" (ID S9). "Everybody at home only eats watching television" (ID S4, ID S11). "He just wants those products that frequently have advertisements in the media" (ID S11).

b) Regarding the presence of television in recreational activities and play

"There's chocolate milk (Todininho) that he drinks because it comes with some questions. He only wants those little cards. Then he reads and memorises them. He wants to buy Batom chocolate and crackers that have little cards that he collects. He likes to buy foods that have toys and little cards...The television is in the dining room, and he eats watching television. When he is not watching television, he does not want to eat" (ID S1). "The presentation of the package of salgadinhos draws his attention because they usually come with those toys, those little cards..." "When he sees something on television, he asks to buy it" (ID S5). "When he sees, he sees the crackers. The one who is 3 years old, everything that she sees, she asks for" (ID S7).

A new order begins to take over the caregiver-child relationship. Family relationships change in relation to food consumption, as do the relationships between children and food, food and nutrition, and bodies and health. The order of desire is influenced by the media, and television supports these narratives, as shown in Table 4.

International studies of children show that television increases food intake and obesity. These studies have shown that body fat percentage increases as television exposure increases¹⁹ and that childhood diabetes is strongly associated with prolonged exposure to television²⁰.

In the United States, a review found that children watch approximately 20 hours of television per week, and approximately 3 hours are food advertisements. In total, 91% of the advertisements are for foods with high fat, sugar, and salt content²¹.

According to Castro et al, 47,4% of Brazilian Children spend a total of at least six hours a day in front of the television, playing video games, and

on the computers, and these activities together lead the children to exercise some influence on 80% of their families' buying decisions²². This behaviour was also identified by the IBOPE¹, which showed that Brazilian children spend an average of five hours per day watching television and that it takes approximately 10 seconds for a child to change his/her mind. The amount of time Brazilian children spend watching television is among the highest in the world. Even recreational games and other recreational activities traditionally associated with running and jumping are now performed with a remote control from the comfort of the couch and in the safety of the living room. Thus, new generations have been rapidly learning the unhealthy habits that stem from the behavioural changes associated with television. Moreover, feeding practices are grounded in culture²³.

In Northeastern Brazil, where child malnutrition was once highly significant, studies on obesity and overweight have been limited to specific segments and different age groups, and use different nutrition indicators. In Campina Grande a high prevalence of overweight and obesity was found among schoolchildren. This can be explained by their unhealthy eating habits²⁴.

Systemic droughts are one of the primary topographic features of this urban-rural region that is marked by extreme poverty. Poverty is the cause of a number of health problems not observed elsewhere. This influence can be observed in the caregivers' responses; however, the caregivers cannot understand the magnitude of the influence of television on the lives of the children for whom they care. Understanding this magnitude is a challenge raised by this study.

Therefore, this study showed that child caregivers perceive that television influences the lifestyles and daily eating habits of Brazilian children, who, in turn, influence their families.

There has not only been a change in language and culture. There has been a transformation of the understanding of the relationships between bodies and health, food and nutrition, and individuals and society in a generation in which eating has left the table and eating behaviours extend beyond the dimensions of food and tradition.

Food and the act of eating have broken boundaries, requiring new languages, other places, and other foundations that are no longer real (the table), but virtual (the television). The food has become virtualised.

Knowledge and flavours have become globalised, broken geographic and cultural barriers, and integrated new cultures and paradigms. Children have embarked on this media trip, taking their caregivers along with them.

1 IBOPE - Brazilian Institute of Public Opinion and Statistics (Instituto Brasileiro de Opinião Pública e Estatística).

CONFLICTS OF INTEREST

There were no potential conflicts of interest, including political and/or financial interests associated with patents or property, provision of materials, and/or supplies and equipment used in the study.

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