Understanding Social Norms That Drive

Diet Behaviours and Body Image in Latin America

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Background

The double burden of malnutrition in Latin America is the region's single most important public health concern for the next several decades. As economies in Latin America develop and become more globalized, people across the region are increasingly transitioning away from traditional diets of plants, whole grains, legumes, meat, and fish and toward diets rich in processed sugar, fat, oil, refined grains. They are also transitioning from lifestyles high in physical activity and physical labor toward lifestyles low in physical activity. This conjunction of changes in diet and physical inactivity are cornerstones of the region's epidemic of nutrition-related noncommunicable disease.

By 2030, over 80 percent of deaths in Latin America will be attributed to noncommunicable diseases (NCD). Compared to other countries, Latin America has the highest rates of NCD. Latin America's burden of disease also has distinct features in comparison to high-income countries in North America and Europe: nearly 20 percent of NCD are diagnosed in people under 60 years old in Latin America, whereas only about 13 percent of people under 60 years old are diagnosed with these diseases. Put simply, more people in Latin America are getting sick from NCD, and they are getting sick at younger ages than people in high-income countries.
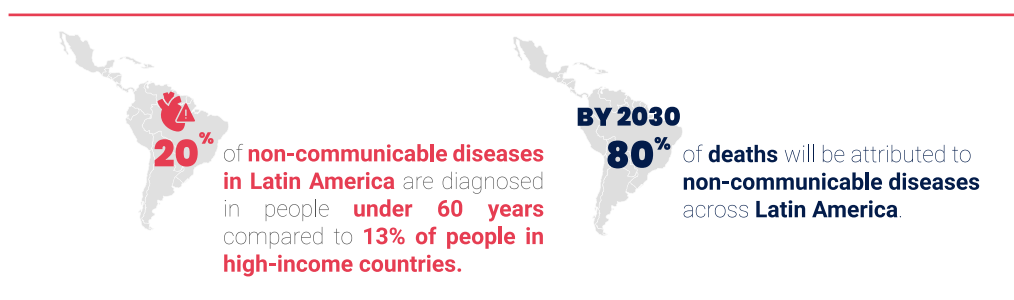
20% of **non-communicable diseases in Latin America** are diagnosed in people **under 60 years** compared to **13% of people in high-income countries.**

BY 2030
80% of **deaths** will be attributed to **non-communicable diseases** across **Latin America**.

While this transition is occurring most rapidly in urban areas, it is also occurring in rural areas, where ultra-processed foods are increasingly accessible. The burden of malnutrition is borne disproportionately by people who rank at the bottom of socio-economic indicators. This means that they are both more likely become ill from NCD and less likely to have access to resources like comprehensive healthcare where they can receive medication and evidence-based nutrition advice.

This study

To understand this nutrition transition from the experiences of people living it, UNICEF commissioned a study on the social norms around nutrition and body image in Colombia, Guatemala, and Mexico. The primary aim of the study is to uplift the voices of people who are least likely to have a seat at the table where policy and program decisions are made and whose perspectives are fundamental to promoting populational health. To do this, the study uses focus group discussions with adolescents and adults and key informant interviews with government officials, civil society actors, and corporate stakeholders to understand the social norms, i.e., unspoken rules about what is considered "normal" or "necessary" to do, around nutrition and body image.

The countries of **Colombia**, **Guatemala**, and **Mexico** were selected for their representativeness of the Latin America region, of their culinary diversity and of their progression of the double burden of malnutrition. The study was contractually limited to three countries and the country selection aimed to include regional representation, with countries considered to be small, medium, and large and parts of the three major regional areas: North America, Central America, and South America.

The selected countries also reflect of the region's diverse cuisines from the influences of Mesoamerican, Spanish, and African culinary traditions in each country. Moreover, each country is experiencing the double burden of malnutrition. Each country has significant national rates of stunting and obesity, with challenges and opportunities related to socio-economic, infrastructural, and regulatory conditions. Each country is at a different stage of the nutrition transition, with Mexico being the most progressed, followed by Colombia and Guatemala respectively.

Participants were selected from both rural and urban areas in two to three regions of each country. This study, importantly, is not a comprehensive ethnographic account of the nutritional experiences of every population each country. Rather, it presents a snapshot of the nutritional experiences of people experiencing financial scarcity and, often, food insecurity. While their experiences may be specific, many there are numerous aspects of their experiences that can be traced and connected with those of other people across the country.

The study's findings show that social norms are driven primarily by environmental and social factors in people's environments. The organization of people's environments, from the accessibility and affordability of carbonated sugar-sweetened beverages and the density of street vendors to the gendered division of household labor, impacted what they considered to be accessible, affordable, and aspirational. This perception about what is accessible, affordable, and aspirational impacted individual decision making and contributed to normative behaviors and practices around nutrition and health. The table in the following page summarizes the main findings for each of the three countries, organized based on the **Behavioral Drivers Model (BDM)**. These findings, divided into psychological, sociological, and envi-

ronmental factors, and organized according to the main biases and elements that the study identified as influencing social norms, will be explained in greater detail throughout the document.

This study aimed to understand participants' nutritional experiences through the lens of their norms in their communities and homes; to understand how and why they made decisions; and to contextualize these finding within the conditions of the environments where they lived. The study found that cognitive biases, emotion, and self-efficacy play a role in determining what and how a person eats. For example, many people in Colombia and Mexico used a rule of thumb to distinguish "healthy" from "unhealthy" foods: in Colombia, they distinguished between "natural" (healthy) and "artificial" (unhealthy), and in Mexico they distinguished between "homemade" (healthy) and store-bought (unhealthy). This rule of thumb contributed to a salience bias, where the low nutrition in some foods was less apparent when they used this rule of thumb. From the sociological findings, the community dynamics and social networks in which people live are important vectors of information generation and exchange, and they contribute to the development of social norms. Furthermore, socio-cultural attitudes and beliefs can act as vehicles that transmit social norms and knowledge.

Infrastructural, socio-economic, and regulatory factors contributed to the ability of people to affect change in their behavior, homes, and communities, and these social determinants impact people's health in inequitable ways. The findings show that infrastructural factors across the three countries impacted, and often decreased, local food production and limited transportation and potable water infrastructure. At the socio-economic level, factors included high costs of food and cultural and linguistic marginalization that creates barriers to accessing health, social, and public services. Moreover, the implementation of short-term health policies in Colombia and Guatemala, and the lack of implementation of existing policies in Mexico, contributes to the politicization of public health, inconsistent messaging, and policy, as well as creates barriers to developing and implementing stable, long-term policies.

As the focus of the study is broad, the report adopts a processual approach to unpacking the psychological, sociological, and environmental variables in the conditions that produce the double burden of malnutrition in Colombia, Guatemala, and Mexico. This approach emphasizes that there are numerous factors that lead to this population health outcome and that there are also numerous viable opportunities for promoting health in and with communities across each of the three countries.

Summary of Key Findings

Factors	Definition of Factor	Colombia	Guatemala	Mexico
Psychological Insights				
Salience bias	Focusing on items of information that are more prominent and ignoring items that are not	Participants tend to use "natural" vs "artificial" as a rule of thumb for determining whether foods are nutritious and this can contribute to some foods (e.g., sugar-sweetened foods) appearing more nutritious than they are.	Parents tend to talk about nutrition and the impact of ultra-processed foods on health after children began eating these foods.	Participants tend to use "homemade" vs "store-bought" as a rule of thumb to decide the nutritional richness of foods which can contribute to homemade sugar-sweetened foods and beverages appearing more nutritious than they are.
Nostalgia effect	Sentimental feelings of the past influencing present and future decisions	Eating out evokes sentimental memories of spending time with and showing affection to family.	Eating out with family is often associated with special occasions and evokes memories of family togetherness.	Eating out evokes memories of leisure, recreation or rewards and showing affection for oneself or a loved one.
Affect bias	Current emotions influencing rapid decisions	Snacks are uncommon for adults, but adolescents frequently eat foods from convenience stores to fill cravings for sugar-sweetened or savory foods.	Snacks include a variety of foods, such as fruits and salads, while ultra-processed foods were often eaten to fill cravings for something sweet and often a branded ultra-processed dessert.	Ultra-processed snacks are usually eaten to fill cravings and desire to eat something sweet or salty.
Self-efficacy	Belief in one's own capability to the behaviors to reach a specific goal	Adults and adolescents in urban areas feel less capable of changing their habits of drinking carbonated sugar-sweetened beverages. Adults and adolescents in urban areas often feel less capable of affording and including a wide variety of fruits and vegetables in their diets than people in rural areas who often grow food at home.	Adults are ambivalent about their ability to prevent diabetes in themselves and their families, but they try to limit their consumption of sugar-sweetened beverages.	Adults in urban areas frequently described feeling incapable of changing the socio-economic circumstances of their ability to buy vegetables. Some adults in rural areas and a few in urban areas grow foods at home to save money and increase their consumption of fruits and vegetables.
Intent	Goal or purpose in an action or value	Participants consider health is predicated on what a person eats, their physical and emotional wellbeing.	Participants consider health to be influenced by exercise and eating fruits and vegetables and drinking water.	Participants consider consuming a "balanced" diet, resting, and drinking plain water to be fundamental to healthfulness.
Interest and attitudes	The significance of a characteristic and the perspective around it	Affordability, quality, and proximity guide people's food purchasing decisions.	Affordability and proximity guide people's food purchasing decisions, while variety was also an important factor in urban areas.	Affordability, quality, and proximity guide people's food purchasing decisions.
Sociological Insights				
Social influence	Intentional and unintentional efforts to change a person's behavior	Family members drinking carbonated sugar-sweetened beverages around toddlers spurs their interest and curiosity to try it.	Giving toddlers warm coffee to drink in the morning is often considered normal in Guatemala, where it is served to everyone at breakfast.	Family members drinking carbonated sugar-sweetened beverages around toddlers spurs their interest and curiosity to try it.
Community dynamic	Social and environmental characteristics of a group of people	Eating out is often reserved for celebration and occasional recreation, based on financial resources, and associated with economic wellbeing and affection.	Kitchen labor and meal preparation is typically seen as women's work and adolescent girls were also expected and taught how to do this work.	Eating out at food stands and cafes occurred regularly 2+ times per month, esp. in urban areas, for recreation and is associated with economic wellbeing and affection for family members.
Gender norms	Principles governing the behavior of adults and children to do behaviors considered appropriate for their gender	Men in urban and rural communities often initiate and make the decision to go out to eat to show affection to their families. Adolescent boys and adult men said that they rarely participate in meal preparation and serving, or participate as a form of help, while women and girls considered it one of their household responsibilities.	Many men described their role as the primary household earner and do not consider meal preparation or kitchen labor one of their household responsibilities.	Women are the main people responsible for food decision making, ingredient procurement, and meal cooking and serving. Men in both urban and rural areas are more often the people who initiate and decide whether their families go out to eat.
Meta norms	Collectively held beliefs and values that facilitate group cohesion and social order	Many people consider thinner bodies to be healthier than larger bodies in both urban and rural communities.	Many people consider thinner bodies to be healthier than larger bodies, but most people consider larger bodies the norm in their communities.	Most people considered thinner bodies to be healthier than larger bodies, but most people consider larger bodies the norm in their communities.
Environmental Insights				
Communication Environment	Social setting in which many different narratives, beliefs, and attitudes interact	The conversations and norms established with family members at home greatly influenced people's understanding of health and nutrition. Many people learned from family members to consume carbonated sugar-sweetened beverages (esp., with lemon or boiled into a syrup) to alleviate symptoms of common colds and indigestion.	The conversations and norms established with family members at home greatly influenced people's understanding of health and nutrition. Many people learned from family members to consume carbonated sugar-sweetened beverages plain to alleviate symptoms of illnesses like common colds. Adolescents with mobile Internet access often feel that they had increased knowledge about nutrition which they learned about on social media, particularly TikTok	The conversations and norms established with family members at home greatly influenced people's understanding of health and nutrition. Many people learned from family members to consume carbonated sugar-sweetened beverages (esp., with lemon, sodium bicarbonate, or boiled into a syrup) for indigestion and feelings of faintness. Parents, but not students, sometimes feel reprimanded by school educators when instructed about nutrition programs that minimize processed foods at school.
Social influence	Administrative and regulatory organizations recognized by a community	National public health policies are often dependent on presidential support. While Colombia has long term policies and regulatory entities, the implementation of policies can sometimes be dependent on 4-year cycles of governmental administrations.	National public health policies are dependent on presidential support. The structure of Guatemala's 4-year cycles of governmental administrations creates a lack of policy continuity between administrations and incentivizes short-term rather than long-term health policies.	National public health policies are dependent on presidential support. The structure of Mexico's 4-year cycles of governmental administrations creates a lack of policy continuity between administrations and incentivizes short-term rather than long-term health policies.
Infrastructural factors	The set of facilities and systems that impact the functionality of an economy and people's participation in it	Limited transportation infrastructure impacts small and large business' ability to transport perishable foods to and from rural areas.	The corporate privatization of land opposes traditional models of communal ownership and can limit access to natural resources for growing crops. Lack of access to potable water creates a health risk to children in Guatemala.	Mexican urbanicity is correlated with less physical activity than in rural areas and less physical activity than in cities across North America and Europe.
Structural factors	Obstacles (policies, practices, norms) that impact a group disproportionately and contribute to social disparity	The industrialization of agriculture and limited regulation of ultra-processed foods increases the availability, affordability, and variety of them.	Speakers of Indigenous languages face barriers to accessing and engaging with public health services and nutritional guidelines, which are typically in Spanish.	Free trade agreements have increased the availability, affordability, and variety of ultra-processed foods.

Table 1 Summary of Key Findings

Introduction

Purpose of the Document

This document presents the findings of a study commissioned by UNICEF Latin America and the Caribbean and conducted by MAGENTA. The study focuses on social norms around food and body image in the context of financial scarcity in three Latin American countries, Colombia, Guatemala, and Mexico. The study focuses on the social norms that influence (1) how children and parents make decisions about what to eat daily and (2) how they conceptualize normal and ideal body sizes. This report summarizes the main activities undertaken in this project and the key findings from the study activities. This study was conducted by researchers at MAGENTA and ran from November 2021 to June 2022.

Study Objectives

MAGENTA conducted qualitative research to identify key social norms that influence behaviors around diet, nutrition and body image among children and adolescents in Colombia, Guatemala, and Mexico. The objective of this study is to better understand people's decisions making processes, preferences, and norms around food choices, ultra-processed foods, to provide recommendations for future programming and policy suggestions at the national and regional levels. This research focuses on the following priority areas to promote nutritional health:

1.

Early childhood nutrition: focused on preventing all forms of malnutrition in children under 5 years of age, including undernutrition, micronutrient deficiencies, and overweight and obesity.

2.

Nutrition in middle childhood: focused on preventing all forms of malnutrition in middle childhood (children aged 5-9 years) and adolescence (children aged 10-19 years), including undernutrition, micronutrient deficiencies, and overweight and obesity.

This focus is important because Latin America has the highest consumption of processed and ultra-processed foods . This consumption is related to diet-related noncommunicable diseases (NCDs), e.g., obesity, Type 2 Diabetes, hypertension, and hyperlipidemia . Understanding decision making, norms, and preferences around food choices and body image is a critical aspect of facing and addressing the major health, social and economic costs of this public health epidemic .

The insights from this study will feed into the implementation of UNICEF's Nutrition Strategy 2020-2030 through the development of evidence-based policy recommendations from three different national contexts of Colombia, Guatemala, and Mexico. Based on the Behaviors Drivers Model (BDM), MAGENTA conducted a Literature Review, stakeholder consultations through Key Informant Interviews (KII), and Focus Group Discussions (FGD) (in collaboration with a data collection partner) that gathered insights to inform social policy strategies. Such strategies will focus on promoting healthy food choices and positive body image as the target behaviors for women and children.

BDM Level - Stakeholders				Research Tools
Environmental	Policies	Legislation	Media	Lit Review - KIIs
Sociological	Education Sector		Community Leaders	Lit Review - KIIs
Psychological	Parents		(Children (Adolescents	FGDs
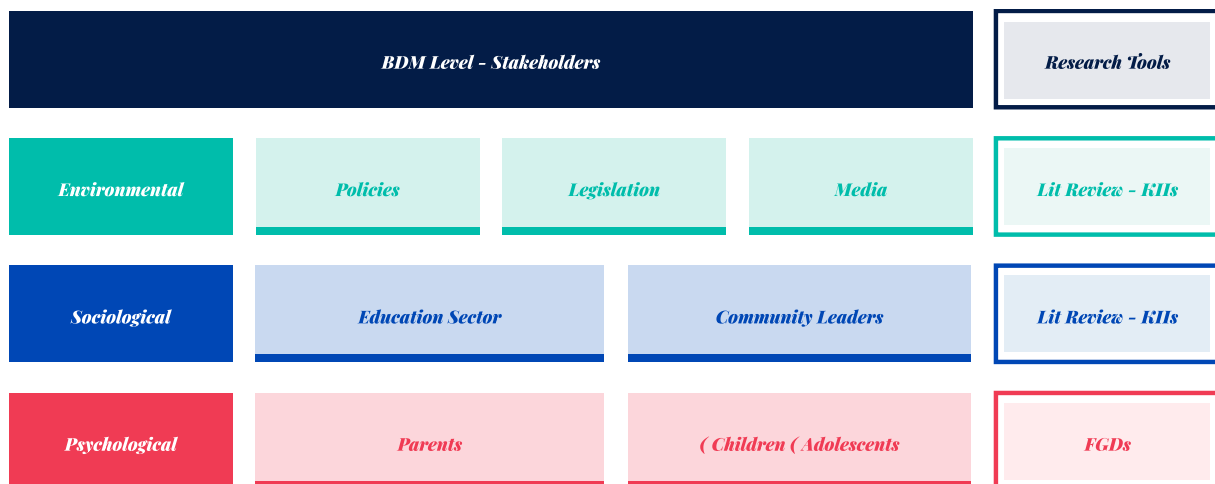
Figure 1 Behavioral Drivers Model by Stakeholders

Context of the Study

Across Latin America, nutrition transitions are transforming population health. Traditional diets of plants, whole grains, legumes, meat, and fish are increasingly replaced with sugar, fats and oils, refined grains, and ultra-processed foods. This transition toward diets that are high in calories, fats, salt and sugar and low in nutrients and fiber appears to be the cornerstone of the region's epidemic of nutrition-related non communicable disease.

While this transition is occurring most rapidly in urban areas, it is also occurring in rural areas, where ultra-processed foods are increasingly accessible . Both urban and rural food landscapes can facilitate access to these unhealthy foods: food swamps facilitate access to ultra-processed foods because the abundance of fast food restaurants, convenience stores, and liquor store options exceeds the options for affordable and nutritious foods, while in food deserts there is simply little access to affordable nutritious food, or sometimes food at all. In communities living with financial scarcity , however, the most accessible and affordable foods are often ultra-processed .

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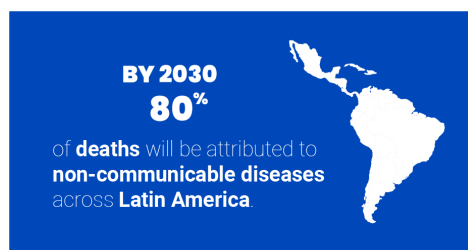
The burden of noncommunicable disease is disproportionately borne by people who rank at the bottom of socio-economic indicators. Across Latin America, over 80 percent of deaths will be attributed to noncommunicable diseases by 2030. In comparison to other regions of the world, Latin America has among the highest rates of noncommunicable diseases.

20% of **non-communicable diseases in Latin America** are diagnosed in people **under 60 years** compared to **13% of people in high-income countries.**
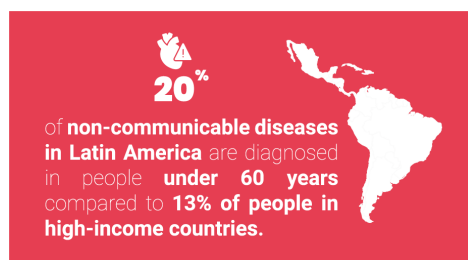
However, the distinction between Latin America and many high-income countries in North America and Europe is that nearly 20 percent of noncommunicable diseases are diagnosed in people under 60 years in Latin America compared to about 13 percent of people in high-income countries. In other words, more people in Latin America are becoming sick from noncommunicable diseases, and they are getting sick quicker than people in high-income countries.

These nutrition transitions are caused by changes in both the food systems , which are the processes and infrastructure supporting the production, retail, and the consumption of food. Namely, the development of industrialized agriculture, involving the intensive production of monoculture crops and animals, in the late 20th century of Latin America has increasingly replaced family farming, e.g., the traditional milpas ("cultivated fields") of Mesoamerica, because family farmers cannot compete with either the quantity or the economic scale of production .

Additionally, the globalization, influx, and high consumption of ultra-processed foods have impacted not only the landscapes of food—foodscapes—in local communities, but also the health of these communities. The consumption of ultra-processed foods contributes both to a high regional burden of noncommunicable disease morbidity, but also to the double burden of malnutrition across the region. In 2019, the World Bank reported that mortality in Latin America and the Caribbean grew by over 8% between 2000 and 2019, with over 75% of deaths in 2019 being caused by noncommunicable diseases.

Families with limited economic resources often make decisions to economize on the cost of groceries and food expenditures. This often means they are more likely to buy foods with added sugars and fats because these foods are typically less expensive. Therefore, understanding both overnutrition and undernutrition as two dimensions of the same phenomenon of malnutrition—the double burden of mal-

nutrition—provides a multi-dimensional view into people's nutritional experiences. The double burden of malnutrition across the region refers to the "deficiencies or excesses in nutrient intake, imbalance of essential nutrients or impaired nutrient utilization… [it] consists of undernutrition and overweight and obesity, as well as diet-related noncommunicable diseases".   While previous nutrition research in low- and middle-income countries has focused on malnutrition as a matter of undernutrition (leading to stunting and underweight), not overnutrition (leading to overweight and obesity), the emergent understanding is that undernutrition and overnutrition are interconnected. Both are linked to micronutrient deficiencies and, usually, to financial and other forms of resource scarcity. It is therefore important to study both undernutrition and overnutrition as parts of the same phenomenon to appreciate the scope, scale, and experiences of nutrition across the Latin American region.

Theoretical Framework: Behavioral Drivers Model

This study used the Behavioral Drivers Model (BDM) to develop a holistic understanding about how people's individual characteristics and socio-economic contexts influence social norms around eating and body image. The BDM, developed by UNICEF MENARO, asks the question of: what drives a behavior? To answer this question, the BDM considers behaviors at both the individual and group level to be the complex result of a range of intrinsic psychological and extrinsic sociological and environmental factors that drive, or influence, behaviors.

These categories can be defined as follows:
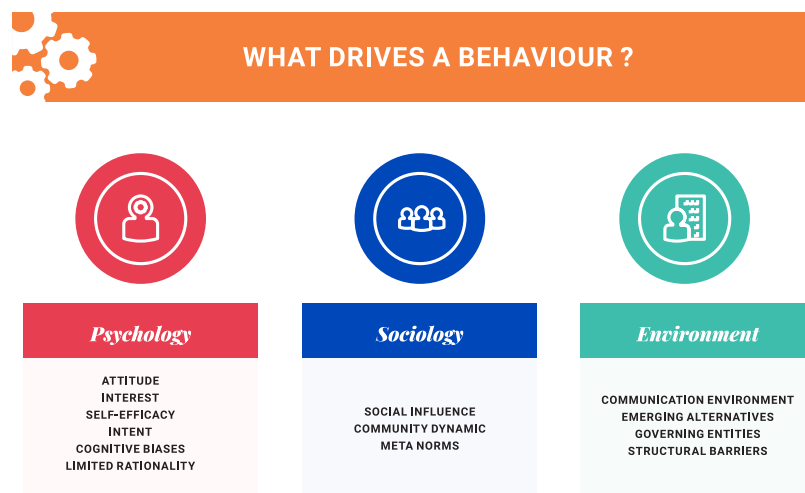
Figure 2 BDM: What Drives a Behavior?

Psychological: Internal factors that persuade or dissuade specific behaviors on an individual level. Includes attitudes, values, interests, beliefs, self-efficacy, and biases.

Environmental: Factors related to an individual's structural environment, including the attitudes of governing and state bodies, policies, economic pressures or incentives, national policies, and the communication environment

Sociological: Factors related to how an individual interacts with members of his or her peer group and broader community, including social norms, gender norms, power dynamics, community knowledge, attitudes, and practices about health, diet and nutrition.

The strength of the BDM lies in mapping out how the different drivers interact to result in specific behaviors. It therefore provides a nonlinear, but systems-oriented approach to unpacking the underlying patterns and causes of the ways that people eat and perceive their bodies. The BDM focuses the behavioral analysis on people's social and behavioral interactions with others and their environment, as well as how psychological factors influence people's decisions and practices around food, eating, and their bodies.
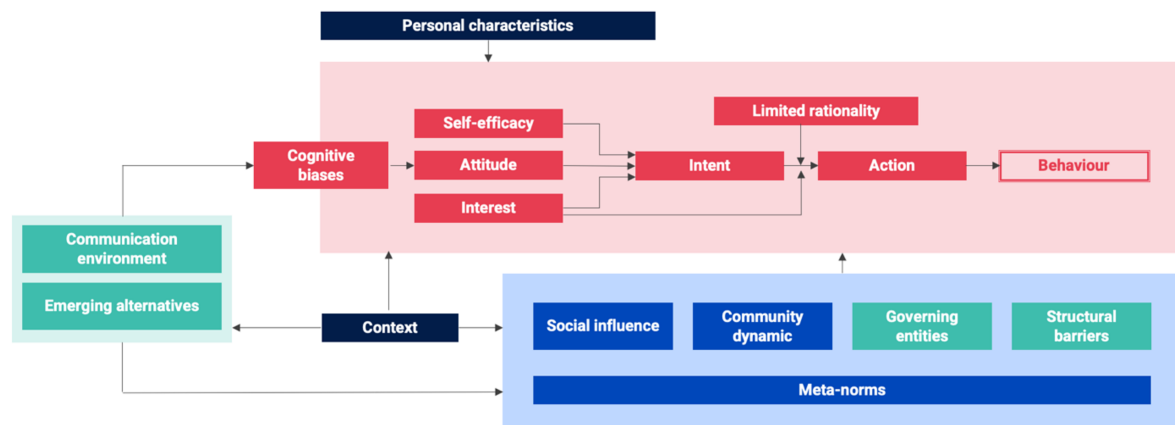
Figure 3 Systems View of Behavioral Drivers Model

Figure 2 demonstrates how these factors may interact in a decision-making pathway, i.e., to determine uptake of a behavior. This figure can be understood as a map that explains how individuals think and consequently, how they decide to perform a certain behavior or not. The added value here is in illustrating how the different personal, social, internal, and external factors can play a role in influencing behavior. It is important to note that those factors do not operate in a bubble and can influence behavior simultaneously.

Social Norms, as Conceptualized in This Study

Social norms can be understood as the unspoken rules of behavior that relate to what people think others do (empirical expectations), or what people think others expect them to do (normative expectations), and the perceived consequences of engaging, or not, in expected behaviors (normative expectations with sanctions).

This study focuses on social norms as the unspoken rules of behavior and attitudes around eating, commensality, and body image. This includes understanding what people actually and normally eat as a benchmark metric and then comparing that data against (1) how they talk about and conceptualize health, nutrition, and body image and (2) the context of their social and economic environments that also impact what is accessible, affordable, and aspirational in communities. This is important because looking at social norms enables researchers and decision makers to better understand people's experiences of nutrition and how they make decisions, which can inform how to improve population health.

This study uses the lens of Cristina Bicchieri's foundational text on social norms, The Grammar of Society , in which she argues that social norms are analogous to a "grammar" of social interactions. From this perspective, norms, like language, are created in coordination with environmental, sociological, and psychological factors. This perspective emphasizes the process by which norms emerge rather than their function or role in guiding group behavior. It, therefore, focuses on understanding the socially contingent knowledge and the ways that norms differ from other types of social codes and injunctions, such as legal and moral codes .

Specifically, this study conceptualizes social norms as a type of social bias toward doing or condoning a given behavior. It defines social norms as occurring when two conditions are met: The first condition is that there is a descriptive norm, which describes how people usually act, feel, and think in a given situation. The second condition is that there is also an injunctive norm, which describes how people think that they should behave, and which indicates that there is a social sanction for behaving differently from the way that most people behave in that situation. When both conditions are met, the behavior can be defined as a social norm.

Social norms are often useful for people because they provide a guide, or a map, for what to do, or what is normal, in each social context . This means that social norms can lead people toward conformity, toward doing or not doing a behavior based on how people perceive other people's attitudes about the behavior. These tendencies are driven both by a desire for social acceptance among peers, as well as by a desire to maintain a positive self-concept, which aligns with the norms and values that people internalize as they grow up.

The incorporation of the Behavior Drivers Model aims to develop a "ground up" understanding of the social norms around food and commensality. While there are numerous studies on the epidemiological aspects of the double-burden of malnutrition, there are fewer studies on the social life of eating as it relates to the region's double burden of malnutrition. To give readers and decision makers a robust, contextual, and processual understanding about what, why, and from where social norms emerge around food and commensality, this study looks at how the psychological, sociological, and environmental factors interact to form social norms. This was done with the hope to provide readers with an understanding of the components that constitute norms, so that this document may hopefully serve as a guide to understanding the regional landscape of social norms.

Research Questions

Focusing on **(a) early childhood (0 – 5 years)**, **(b) middle childhood (5-9)** and **adolescents (10-19)**, the primary research question is:

How do psychological, sociological, and environmental factors inform and influence behaviors and norms around diet and body image in LAC?		
Environment	**Sociological**	**Psychological**
1.0. How are the context and structural elements preventing or triggering diet habit and body image social norms?	**2.0.** How are social determinants influencing diet and body image?	**3.0.** How are personal characteristics, individual cognitive and emotional drivers influencing healthy nutritional habits (intent)?
1.1. Communication environment	**2.1.** Families, friends, and social influence	**3.1.** Knowledge and Interests
1.2. Emerging alternatives	**2.2.** School and Community dynamics	**3.2.** Attitudes
1.3. Governing entities	**2.3.** Meta norms and society at large	**3.3.** Self efficacy
1.4. Structural barriers		**3.4.** Cognitive biases and limited rationality

Table 2 Study Research Questions

Literature
Review

Objectives

The objective of this literature review is to present a narrative account of research that contextualizes the social norms findings in this study in relation to existing research. The review findings section is organized in three parts, Psychology, Sociology and Environment, which correspond to the three findings sections in each country chapter.

Methodology

The literature review was conducted following a guide from a published methods paper. The researchers searched four electronic databases for articles published between 2008-2022, which produced 330 articles that were considered relevant to this report.

Definition of Eligibility Criteria

To be included in this study, each publication had to meet three basic criteria: (1) Publications had to be in the form of academic articles, rather than books or grey literature. (2) Articles had to include at least one of the terms (excluding conjunctions) in the search string. (3) Articles had to be published between 2008 and 2022 to include a broad range of recently written articles. Non-academic literature was excluded because it does not show up on most searches of these search engines. For articles about public policies, the review specifically considered whether policies designed to nudge consumers toward healthier products exist in the three countries, and this information is presented in tabular form.

Search Methods: Electronic Database

The databases used in this study were Google Scholar, PubMed Central, MDPI, and Scielo:

• Google Scholar is the most accessible database that indexes metadata or the full text of academic literature across an array of publishing formats.

• PubMed Central is a digital repository of open access full-text scholarly articles in the fields of biomedicine, life and social sciences.

• MDPI is a digital repository of open-access full-text scholarly articles across the physical, life, and social sciences, as well as the arts and humanities.

• Scielo is a digital repository, library, and electronic publisher of open-access scholarly journals in Latin America that covers the physical, life, and social sciences.

These databases were selected for the breadth of content, scholarly rigor, and topical specificity that they provide the across the life and social sciences.

Selection and Organization of Review

Articles that met the eligibility criteria were include in this review and are listed by their relevance to the Behavioral Drivers Model. This organization includes three basic levels of psychology, sociology, and environment to facilitate the analysis and contextualization of the findings, which are organized into the same categories.

Data Extraction Management

This review used the SPIDER data extraction method. The SPIDER question format is a standard data extraction method for literature reviews of mixed methods research. The format identifies the following concepts: Sample, Phenomenon of Interest, Design, Evaluation, and Research Type. This format enables more efficient analysis and synthesis of relevant qualitative and mixed methods research.

Results of the Literature Review

Narrative Overview by BDM Level

The section below provides a narrative overview by BDM level of the literature review findings. For a full list of articles included in the literature review, please see Annex A. Please note that this section uses APA citation style, which is the standard citation style in the social sciences because it incorporates brief in text citations that enable readers to scan the publication year.

Psychological

Knowledge, Attitudes, and Self-Efficacy

While there is limited scholarly research on nutrition self-efficacy and capability in Latin America specifically, there is a body of research that looks at the ways that capability and self-efficacy impact nutrition related behaviors (see Robles et al. 2014, Nastaskin and Fiocco 2015, Doustmohammadian et al. 2019, Amaya-Castellanos et al. 2021). Self-efficacy here refers to a person's belief in their ability to change their behavior, while capability here refers to their knowledge, e.g., nutrition literacy, about why this is important. Ah Ha et al. (2016), for instance, find significant differences in not only the eating habits and physical activity of overweight and normal weight children and adolescents (aged 6-18 years) in South Korea, but also in their perceived ability to modify their eating behaviors. They also found that the nutritional knowledge of normal weight and overweight children did not differ significantly. They suggest that while nutritional literacy may be important in a person's overall ability to modify a behavior, their self-efficacy may be more likely to determine whether the change occurs. To this end, Robles et al. (2014) observe that both being a woman and having high self-efficacy in reading nutrition labels were strong predictors of healthy eating. This further suggests that while nutrition literacy is important, it is likely not the primary predictor of healthy eating or modified behavior.

In addition to self-efficacy and capability, a person's emotional state was also an important factor in the types of foods that they chose to eat. Nastaskin and Fiocco (2015) found that stress and self-efficacy were predictive of whether young adult women in the United States ate more fat and sodium in their diets. They suggest that increasing women's dietary self-efficacy and reducing perceived stress could lead to reductions in fat and sodium consumption, which would contribute to a healthier diet overall. Konttinen (2020) looks at the concept of "emotional eating", which is the tendency to eat energy-dense, and often ultra-processed, foods in response to negative emotions. Her literature review observes that a while body of literature looks at the correlation between depression and weight gain (see Macht 2008, Devonport et al. 2017, van Strien 2018, Altheimer et al. 2019) and that an emerging body of literatures suggest that both sleep (that is, too little of it) and genes may also play a role in whether a person is more likely to develop overweight. This research is important because it suggests that while capability, emotion, and self-efficacy play a role in determining what a person eats, the types of interventions that are likely to be most effective include a component that focuses on emotion and mental health.

Sociological

Community Dynamic Influence and Social Norms on Eating Behavior

The community dynamics and social networks in which people live are important vectors of information generation and exchange, and they contribute to the development of social norms. They also have important implications for establishing early-life dietary habit and preferences (Reyes et al. 2022). This system of interconnected relationships, e.g., between family members, friends, community leaders, and the broader media landscape, influence which foods individuals consider to be normal and healthy. These are, therefore, important mechanisms for establishing nutritional social norms, as well as they are important mechanisms that can be leveraged to increase the consumption of nutrient dense foods.

Colombia

While there are limited studies on the influence of social networks on food choice in Colombia, there are several studies that analyze cultural attitudes toward food. Morsello et al. (2015), for instance, argue that cultural attitudes toward bushmeat consumption are stronger than economic indicators among urban Amazonians from Colombia. This finding reflects the cultural transmission of food habits, identity, and social cohesion. Quinter-Angel et la. (2019) also observe in an ethnographic study in Cali, Colombia that the social transmission of food habits mediates people's social and cultural identities. Furthermore, Manecha (2017) observes that the social transmission of food habits contributes to cultural continuity and cohesion, particularly in contexts of migration. These studies show that socio-cultural attitudes and beliefs can act as vehicles that transmit social norms and knowledge.

Guatemala

In Guatemala, the research on the community dynamics of eating focus primarily on nutrition program interventions and evaluations. These studies show that designing community-led programs is an effective way to promote health. The formative research conducted by Letona et al. (2014) shows that developing community-based interventions for noncommunicable disease prevention in schoolchildren increases program feasibility. Specifically, by involving and gaining the support of families and trusted leaders, they were able to design an intervention that communities found acceptable. This is important in Guatemala, which is both multicultural and biodiverse. To this point, Cuj et al. (2020) observe that Guatemalan nutrition guidelines often reflect social norms that are adapted from American and European nutritional guides. For instance, they found that the guides often did not include foods and eating styles that are familiar to Indigenous people, which means that the guides provide little advice about how to improve the nutrition in Indigenous communities. For this reason, health guides also need to consider and incorporate local traditions and cosmologies into their design in order to effectively promote health (Tjeflaat 2018).

Mexico

In Mexico, several studies point to individuals' social networks as being important ways by which people acquire nutritional knowledge and transmit social norms. Wutich and McCarthy (2008) report that mothers who have the support of close social network members (e.g., family and friends) are more likely to follow advice from broader network members for infant feeding. They found that social network level variables were better predictors of infant feeding than socio-demographic indicators. For instance, mothers with strong ties to Indigenous networks tended to delay the introduction of grains into their children's diets, while those with strong ties to distant network members were more likely to introduce grains early. Moreover, Reyes et al (2022) found that female network members, e.g., female health professions and female family members and friends, were the people whom breastfeeding women sought parenting and feeding advice. Also showing the importance of family, Brambila-Paz et al. (2022) report that the transition of any family member toward obesity is more predictive in the transition to obesity in normal-weight children than the family's socio-economic status or individual characteristics, e.g., gender, education, and occupation. This demonstrates that social networks not only transmit social norms, but that network characteristics are predictive of a person's future health status.

Community Dynamic Influence and Social Norms on Body Image

Across age, socio-economic indicators, and countries, many people across Latin America experience dissatisfaction with their body image. Research has shown that body dissatisfaction correlates with inter-peer competition, rather than media exposure as the primary vehicle (Muñoz and Ferguson 2012). Importantly, research in rural Guatemala demonstrates that fat-stigmatization and thin-idealization are distinct social norms: Cole (2013) argues that in Acatenango, neither ideal thin body nor obesity stereotypes have been internalized as social norms, which underscores the complexity of the emergence of body norms around the world. Nevertheless, numerous studies found that socio-demographic factors like more education and higher socio-economic status were often indicators of increased thin idealization (Gilbert-Diamond et al. 2009).

Colombia

While there was limited research on body image perception among adolescents or adults in Colombia, the existing literature suggests that socio-demographic indicators as well as social media usage were predictive of body image satisfaction. Gilbert-Diamond et al. (2009) find that increased education is positively correlated with negative body image, which indicates that socio-demographic factors and increased access to thin-ideal imagery impact perception of body image. Duchin et al. (2014) also show that socio-demographic factors can act as correlates of body image satisfaction: They find that a child's body mass index and socio-economic level were correlates of mothers' personal body satisfaction. Pineda-Garcia et al. (2021) find that Covid-19 significantly increased bulimic behaviors, which were driven by increased anxiety and confinement. These studies show that socio-economic status, gender, and confinement were predictors of a person's body image satisfaction, which was usually negative.
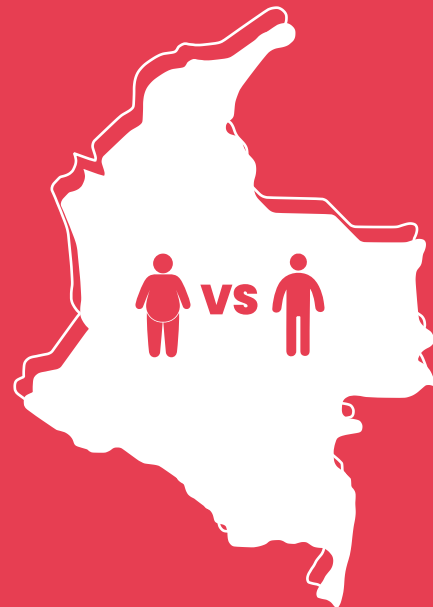
Guatemala

In Guatemala, people had ambivalent views about the healthiest and most desirable body size, and the research suggests that the stigmatization of small and large bodies are not mirror processes. Maupin and Brewis (2014) find that food insecurity can foster positive associations with thin bodies. This finding runs contrary to the dominant theory that food insecurity fosters positive associations with large bodies. In the context of rural Guatemala, they found that many schoolchildren experiencing food insecurity were more likely to idealize thin bodies and that food insecurities can increase biases toward thin bodies, which they perceive as the norm in their communities. This underscores the point that body norms and body size preferences are not universal. Moreover, Maupin et al. (2021) find that women surveyed about desirable BMI in rural Guatemala preferred sizes that fall within the clinical normal and overweight categories. Their studies demonstrate that body image idealization in rural Guatemala tends toward bodies that considered normal, rather than toward singular idealizations of size.
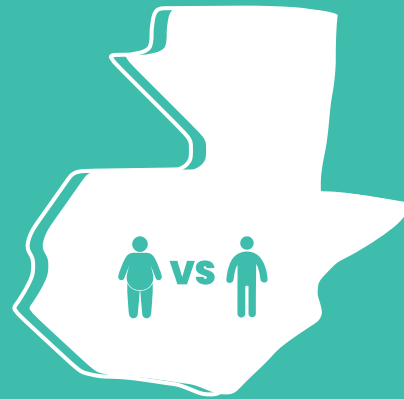
Mexico

In Mexico, most research showed that thin idealization was a norm among Mexican adolescents and adults, while ideal child size often favored larger bodies. Andrade et al. (2012) found that less than two thirds of participants in a sample of Mexican college applicants aged 18-20 years (N=3622; 52% female) accurately reported their weight status category. Gender, age, lower levels of parent education, and hours of TV viewing per day were correlated with body image distortion in distinct ways: Women applicants were significantly more likely to overestimate their weight status, while men applicants were more likely to underestimate their weight status. Moreover, applicants who were living with overweight or obesity were more likely to accurately report their weight status category. This underscores the specific ways in which socio-demographic factors influence body norms and self-perception.

Sociodemographic factors of age, gender, and geographic location influenced how individuals perceived their body size. Borjoquez et al. (2018) found that adolescent students whose mothers had higher levels of education were more likely to perceive themselves as overweight and to engage in weight control practices. The study included a sample of approximately 28,000 students and found that even when adjusting for body weight perception, maternal education level remains significant. A partial explanation for this trend may be found in a study by Mancilla-Diaz et al. (2012) on the influence of peer pressure. In a study of young adult women, they found that thin-ideal internalizations mediated young adults' level of body satisfaction and their level of disordered eating. This shows that peer influence and validation inform young women's conception of beauty and the steps that they take to embody it.

The social pressure to be thin continues across the life course and affects mature adults as well as adolescents and young adults. Valdez-Hernández et al. (2017) found in a qualitative study that body dissatisfaction also affects the quality of life of middle-aged women. The women in the study shared that they experienced negative stereotypes and comments about their bodies in many formative life events. The study also reported that many women internalized body weight as the root cause of distressing social and life events, e.g., marital divorce and romantic separation. This shows not only that thin idealization continues across the life course, but also that people internalize a message that slenderness can facilitate, and even cause, personal success. Moreover, Guendelman et al. (2010) found that socio-geographic location of a person's residence significantly impacts thin idealization. Their study found that Mexican-origin mothers living in California considered ideal body weight of their children to be much lower than the body weight that mothers in Mexico considered to be ideal. This indicates that the norms and values in different socio-geographic areas impact on people's conception of health, even when the people in the study have shared cultural backgrounds.

Despite the diversity of topics, these studies show that body dissatisfaction is widespread across many socio-demographic indicators. This indicates not only the prevalence of this norm, as well as of thin idealization, but it also shows that body dissatisfaction is embedded within many social interactions: that social expectations of slenderness can be used to instigate negative self-perception and to facilitate social inclusion and exclusion across the life course.

Environmental

Structural Drivers and Barriers to Nutritious Foods in Latin America

Colombia

In Colombia, studies about the structural causes of diet-related poor health outcomes have primarily considered the accessibility of foods in the built and urban environment and socio-demographic factors and indicators.

Geographic location is a well-documented predictor of the number of processed foods that were available in a food environment. Rodriguez and Morales (2021) found that small villages in Colombia had less access to processed foods and that people in municipalities were more likely to eat processed foods. This builds on work like that of Herran et al. (2016) that found that dietary transitions increased individual's weight in a population and were coterminous with demographic and nutrition transitions. More recently, Ruiz-Roso et al. (2020) found that the Covid-19 pandemic significantly increased the consumption of ultra-processed foods and decreased physical activity across Colombia, which suggests that socio-economic changes and stress likely also contribute to this pattern.

Socio-economic indicators were also correlated with body mass index and poor health outcomes, and the burden of disease is shifting toward populations with a lower socio-economic status. Khandpur et al. (2020) argue that consumption patterns show that ultra-processed breads, snacks, and sugar-sweetened beverages were the foods that could be most easily assimilated into a traditional diet. They also find that higher income was positively correlated with increased purchasing of ultra-processed foods. Esguerra Medina (2020) uses a system dynamics methodology to map how the nutrition transition affects population by socio-economic status. They find that the burden of obesity and disease is shifting toward populations with lower socio-economic statuses, especially in women, as Colombia's national Global Domestic Product increases. This shows that the nutrition transition is impacting increasingly large segments of the population.

Guatemala

In Guatemala, studies about the structural causes of poor health outcomes have looked mostly at cultural hybridization and the incorporation of processed foods into traditional diets; the absence of nutrition labelling; the increased availability of processed foods in urban centers; and linguistic barriers to accessing social services for indigenous peoples across the country.

The increased availability, affordability, and lack of nutrition labelling of processed foods in comparison to non-processed or minimally processed foods is fueling health changes across Guatemala's urban environments. Bermudez et al. (2008) find that dietary changes are marked by increased food variety at the expensive of nutrient density. They also find in another study that part of this transition involves shifting toward diets that are high fat, particularly in processed fats. Lee et al. (2010) build on these insights to demonstrate that households with child underweight and maternal overweight are often nutrition insecure and that this phenomenon is associated with high access to processed foods at low cost, low nutrient density and limited physical activity. Nagata et al. (2011) study observes that cultural hybridization, in which people consume higher amounts of processed beverages and foods, is a complementary part of Guatemala's nutrition transition process.

Building on this, Jeffroy-Maynard (2019) argues that many parts of Guatemala City, which is Guatemala's largest urban center, can be categorized as "food swamps". This means that for many people, there is abundant availability of ultra-processed foods, which contributes to poorer population health overall. Importantly, Alarcon-Calderon et al. (2021) argue that the absence of nutrition labelling is also an often-overlooked part of this nutrition transition. They find that a significant proportion of packaged foods with nutritional information do not meet the nutritional criteria, e.g., of nutrition declarations, that the World Health Organization and the Pan American Health Organization recommend. Together these studies argue that intervening on the drivers of "swampification" can help to address both underweight, especially and children, and overweight, especially in mothers, and improve population health.

Two well-documented drivers of poor health outcomes are the dispossession of land in rural areas and the limited availability of social services in Indigenous languages. Pietilainen and Otero (2019) argue that agricultural industrialization and specifically transitions toward monoculture are dispossessing increasing numbers of Guatemalans, particularly Guatemalans from Indigenous communities, which are experience an increase in poverty and food insecurity. Responding to this, Lopez-Ridaura et al. (2021) argue that increasing the accessibility and possession of traditional milpa systems is a promising and culturally responsive way to increase access to nutrition and economic mobility for Guatemalans from Indigenous communities.

Another aspect of this culturally responsive health approach is increasing access to social services in Indigenous languages. Many people across the country speak languages other than Spanish as their primary or sole language, resulting in high barriers to accessing social services. Ingrid Cuc (2021) argues that developing linguistically tailored social services is a critical component to improving population health across Guatemala, as well as that it will facilitate better research on the experiences of the Indigenous communities of Guatemala.
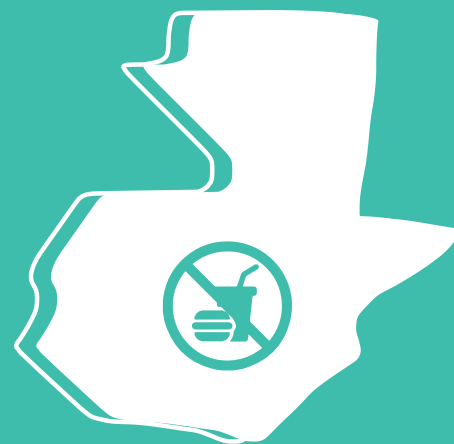
Mexico

In Mexico, studies about structural causes of poor health outcomes related to diet have mostly looked at: (1) the built environment, which includes urban planning, security, pedestrian walkways and the availability and affordability of heathy foods; and (2) socio-economic indicators, which include education and wealth; as well as (3) how these factors influence consumption behaviors.

The availability, affordability, and accessibility of both unprocessed and processed foods influence food consumption across Mexico. Chaudhari et al. (2015) find that the shift to westernized lifestyles of diets that are low in fiber and high in sugar are negatively impacting the health of Indigenous and rural communities. Perez-Ferrer et al. (2019) compare changes in the Mexican food retail environment: they find that adults living in neighborhoods that had a decline in fruit and vegetable stores and an increase in chain convenience stores were more likely to develop diabetes than those living in neighborhoods with many fruit and vegetable stores. This builds on previous research about the food "swampification", particularly in of low- and middle-income neighborhoods: for instance, Bridle-Fitzpatrick's research (2015) shows that access and exposure to ultra-processed foods is a greater concern than food "deserts", which are neighborhoods where there are no fruit and vegetables stores within walking distance, for the prevention of obesity and noncommunicable diseases.

The availability of street vendors was also predictive of overweight and population health. Barrera et al. (2016) find that the number of street vendors was higher around public schools than around private schools. They also found that the density of street vendors was predictive of changes in children's BMI, namely that higher density was correlated with higher BMI. Building on this insight about the correlation between food vendor density and BMI, Rosales et al. (2021) similarly find that street food stands density increased in middle-income neighborhoods (where residents earned between 7,000-

20,000 USD per year). This corresponds with the analogous increase in rates of overweight and noncommunicable diseases among populations in this socio-economic bracket.

Socio-economic indicators were also predictive of consumption patterns and social norms in Mexico. Galvan-Portillo et al. (2018) found that mother's occupation, as well as a children's level of mobile and computer screen time, were associated with the likelihood of having a high fat and high sugar diet. Similarly, Stanton et al. (2019) found that relative increases in household income among low and middle-income households increased their consumption of ultra-processed foods, while retaining their ties to traditions in food preparation. Turnbull et al. (2019) also find that children's choices about food and physical were influenced by their food environments and their discursive constructions and conceptions around food. They found that parents in food insecure environments shared ultra-processed foods as a treat and to show affection and care. They found, moreover, that this familial norm encouraged children to associate ultra-processed foods with positive and loving memories. This finding shows that while environmental factors contribute to changing social norms and vice versa, understanding social norms and empowering families to show affection and care with nutritious alternatives can also influence changes in household consumption and food environments.

Food Marketing and Regulation in Latin America

Food promotion and publicity is an important part of the macro-environments where people live: it influences people's preferences, consumption and purchasing. In the case of young children, it can also influence their requests to parents (Sonntag et al. 2015). Swinburn et al. (1999, cited in Sonntag et al.) argue that individuals engage with ultra-processed foods in numerous "micro-environments": these environments include schools, retailers, mass media, Internet/social media, home, and promotional campaigns. In any one of these environments, people can interact with food marketing, the majority of which promotes ultra-processed foods. These environments contribute to diet-related poor health outcomes and are influenced by "macro-environments" such as government regulations and policies.

Within the context of food advertisements, numerous studies have shown that the foods primarily advertised in these settings are rich in sugar, fat, and sodium, and low in fiber (see Weber 2006, Fiates et al. 2008, Rincon-Gallardo 2016, Theodore et al. 2017, Chemas-Velez et al. 2020). The extent and impact of food marketing on children's behavior is noteworthy: Harris et al. (2009) argue that food marketing to children is not only large, expanding, and harmful, but also that it is increasingly global and focused on ultra-processed foods. Chacon et al. (2013) observe that in this study the effects of television marketing on children that young children interpret marketing images literally. The result is that children can find themselves in both micro and macro environments that nudge them to eat ultra-processed foods and that they can lack the nutritional and informational literacy to navigate out of these environments.

Both across Latin America and within the countries covered in this study, national governments have introduced and implemented large-scale prevention programs for noncommunicable diseases (Palacios et al. 2021). Gómez et al. (2021) argue that governments across the region have successfully implemented disease prevention policies based on increasing nutrient-dense foods, as well as based on the concept of health as a human right. However, they observe that few governments have incorporated this language of human rights into discussions of regulating the food and beverage sector. Rather, corporations have been encouraged to self-regulate and reformulate industrialized food products to better align with national nutrition guidelines. Kroker-Lobos et al. (2022) observe that market-driven food fortification and reformulation initiatives can lead to a "health halo" effect that misrepresents the nutritional value of these foods.

The current policy regulation in Latin America targets individual decision making and discourages people from purchasing ultra-processed foods. Palacios et al. (2021) report that the current regulation existing in Latin American countries includes Ministry of Health oversight of obesity prevention programs; front of package labelling; school environment education; promotion of physical activity; and taxation of sugar sweetened beverages. At the community level, the primary interventions include school meals, complementary nutrition, nutrition education, and the promotion of healthy environments. Importantly, the implementation of each policy varies country by country and can also vary regionally. The result is a diverse landscape of public policy interventions across each country and the region. The table below summarizes which policies have been implemented in Colombia, Guatemala, and Mexico.

Public Policy Intervention	Colombia	Guatemala	Mexico
Front of package labelling	✓ (2017, not specific to front)	✗	✓ (2014)
Foods in schools	✓ (2016)	✓ (2017)	✓ (2011)
Marketing of foods	✗	✗	✓ (2013)
Promotion of physical activity	✗	✓ (2016)	✓ (2005)
Taxation of sugar sweetened beverages	✗	✗	✓ (2014)
Fats (trans fatty acids, saturated fats) in foods	✓ (2009)	✗	✗
Sodium levels in foods	✗	✗	✗
Nutrition education as part of the school curriculum	✗	✗	✓ (2016)
Food security	✓	✓ (2004)	✓ (2011)

Table 3 Nutrition Public Policy Interventions in Colombia, Guatemala, and Mexico, Figure information from Palacios et al. (2021) and on food security for Colombia personal correspondence with UNICEF Colombia

Community-based Health Intervention	Colombia	Guatemala	Mexico
School meal programs	✓	✓	✓
Programs to promote nutrition education	✓ (population and school)	✗	✓
Programs to promote physical activity	✓	✗	✓
Programs to support family agriculture	✓	✗	✓
Programs to support healthier environments	✓	✓	✗
Programs to treat obesity	✗	✗	✓

Table 4 Community-based Health Interventions in Colombia, Guatemala, and Mexico, Figure information from Palacios et al. (2021) and on programs to support family agriculture in Mexico personal correspondence from UNICEF Mexico

The most effective interventions so far have been implemented with a coordinated, multidisciplinary, and multi-sector approach (Pérez-Escamilla et al. 2017 and Palacios et al. 2021). This suggests that the success of future programs will be contingent upon the backing and assistance of both the public and private sectors. Moreover, as Ares et al. (2021) find in their study on adolescent eating habits and preferences, the success of these programs will also be contingent on including youth perspectives into the design of future policies.

Using Behavioral Insights to Affect Change

Behavioral Economics to Strengthen Public Health Policy

Across Latin America, there are limited studies on behavioral economics and very limited studies on its relation to eating and food consumption. While most of the existing research has been conducted in the United States, where the field was developed, behavioral economics is a promising method for increasing the efficacy of public policies (Liu et al. 2013). The field, which studies the effects of psychological, cognitive, emotional, and social factors on decision making, recognizes that environmental factors can instigate decision biases toward less healthy options. At the same time, these same biases can be leveraged to encourage people to make healthier choices, without limiting their options overall (see Just and Wansin 2009). When applied to understand eating behavior, behavioral economics documents how food environments that have many ultra-processed foods can nudge people to purchase and consume these foods, even when they have the knowledge and opportunity to choose nutritious alternatives (List and Samek 2015).

Most of the existing behavioral economics research on improving healthy eating evaluates the impact of changing the choice architecture, i.e., the design of how options are presented to consumers, in food pantries, schools, and public benefits programs. Within these environments, researchers and public policy writers have used behavioral economics principles of framing, prominence, variety, and visual attention to increase the demand for healthy options. Thapa and Lyford (2014) find that there is an emerging best practice for designing interventions in school lunch programs, while there is limited research on how to increase demand for healthier options among suppliers. Within this best practice, Grebitus et al. (2015) argue that visual attention affects decision making and that creating a limited menu with several nutrient-dense options can increase demand for those options. Caspi et al. (2019) and Ozturk et al. (2020) demonstrate the efficacy of these types of interventions in their findings that changes in the choice architecture of an environment (i.e., design changes to the way a menu of options is presented) are more effective than controls in food pantry and cafeteria settings, indicating that they are effective when present.

While behavioral economics interventions do not significantly impact habit or structural determinants of health, they can support the successful implementation of policy and structural interventions. Gopalan et al. (2019) find that financial incentivization and text messaging nudges do not significantly change food consumption behavior over time. However, Samek (2019)'s experiment using reciprocity and goal setting among children increased children's likelihood of choosing healthy milk by 15% and 10% respectively. This finding points to a promising type of intervention in school settings by focusing on increasing individual and group motivation. Furthermore, Blaga et al. (2017) find that physical activity and eating behaviors using behavioral economics insights has promising results for the prevention of noncommunicable diseases. Their findings point to the potential efficacy of incorporating behavioral economics for effective public policy programming.

Most of the research on healthy eating focuses on how institutions can nudge individuals to make better choices, e.g., by prominently displaying nutritious options on signage and menus, but there is limited behavioral economics research on many of the subtle aspects of food decision making (Hursch et al. 2012). Vlaev et al. (2019) argue that there is a notable gap in relation to how individuals make decisions in relation to incentives and that financial incentivization is likely to increase consumption of nutritious foods. They argue that the existing literature on loss aversion (i.e., people's tendency to prefer avoiding losses to getting equivalent gains), hyperbolic discounting (i.e., people's inclination to choose immediate rewards over future rewards, even when future rewards are greater), and reference points (i.e., people's tendency to classify hypothetical gains and losses against a reference point) all have been well documented in financial decision making. These gaps in the food decision literature present a rich opportunity for peer-reviewed scholarly research on food consumption. Huang (2021)'s study is one of the first documentations about how consumers and farmers make food decisions in rural China. They find that perceived need and habit are stronger predictors of intention than attitudes, norms, and perceived behavioral control of food consumption. They also find that building on these insights in culturally specific ways is likely to improve the efficacy of public policy and public health programming in development contexts.

Qualitative Participatory Research

Objective

Following the objective and the background of this study, MAGENTA conducted qualitative research to identify the social norms that influence behaviors around diet, nutrition and body image among children and adolescents in Latin America and the Caribbean. The objective is to provide recommendations for future programming and policy suggestions at the national and regional level. Specifically, insights will feed into the implementation of UNICEF's Nutrition Strategy 2020-2030 through the development of evidence-based policy recommendations for the three different national contexts to be analyzed (Colombia, Guatemala, and Mexico).

For this, the MAGENTA team developed and applied the following research tools:

1. Key Informant Interviews		2. Focus Group Discussions	
	Policy makers		Parents of children (0 – 5 years)
	Advocacy Groups, CSOs		Parents of children and adolescents (5 – 19 years)
	Education and Private Sector and Media		Adolescents (14 – 16 years)

Table 5 Key Informant Interview Stakeholder and Focus Group Discussion Groups

Methodology

Study Design

Based on the Behaviors Drivers Model (BDM), MAGENTA conducted stakeholder consultations through Key Informant Interviews (KII) and Focus Group Discussions (FGD) to gather insights to inform social policy strategies. This exercise focused on nutrition and positive body image as the target behaviors for children and adolescents.

MAGENTA identified relevant key stakeholders in consultations with UNICEF, our local data collection partner and local nutrition focused organizations. The selection of stakeholders was purposive in the sense that each stakeholder was selected based on the type of information that they could provide as it relates to the BDM. This approach produced holistic insights regarding nutrition, body image, and metabolic health-related issues at the individual, community, and systems level.

Study Limitations

While this study aimed to reduce bias in the findings, the inductive nature of qualitative research requires the researchers to consider how bias may affect the findings. The primary limitations of this study are that it does not include people from every state or department of each country and that it does not include analysis of norms by cultural, ethnic, or racial affiliation. This means that people living in hard to access rural communities were less likely to be selected and that few people from Indigenous communities participate in this study. This means, furthermore, that the study results are reflective only of the regions where they have been conducted and are not intended to reflect the average experiences of everyone across each country.

The study population presents another limitation, which is that the study participants are all digitally connected to the exclusion of participants who are not. Originally, the study intended to include participants who were not digitally connected, in addition to those who are. However, during the January 2022 Covid-19 Omicron wave across the Americas, the research team in partnership with UNICEF LACRO decided to conduct the study digitally with participants. This decision was made to prioritize the health of all study participants and of the data collection teams. In Colombia, about 70% of people have access to the Internet ; in Guatemala, about 50% have access to the Internet ; and in Mexico, about 70% have Internet access . The result is that the study reflects the experiences of people with Internet access, yet who are nonetheless experiencing financial scarcity in the regions where the study was conducted.

The use of focus group discussions and key informant interviews also presents a study limitation, while it also adds depth of insight. This methodology can enable study participants and researchers to have an in-depth discussion and to understand participants' decision-making process. It can limit or bias the findings if participants feel a social pressure to conform to the norms of the group.

For the questions on body image, the research created an online list of questions for the participants to answer independently, as this information was too sensitive to discuss in a group. The researchers aimed to increase the reliability and validity of the findings by triangulating it with existing, peer-reviewed data, as well as including quotations from participants as much as possible. This approach encourages readers to engage in their own interpretative process with the data and to reach their own conclusions about the data as they engage with it.

Response bias is a potential limitation in the study findings, insofar that participants may have shared what they thought the data collection team, researchers, UNICEF, and any other readers want to hear rather than what reflects their lived experience. The researchers and data collection team tried to limit this by eliciting information through context-based questions (e.g., what do you usually eat for breakfast), asking about usual fruits and vegetables, and emphasizing the social impact that participants' responses will have on public health initiatives. However, it is possible that participants occasionally self-monitored their responses, such as by overstating the quantity and variety of fruits and vegetables that they ate, which the researchers discussed in validation meetings. This type of bias is difficult to circumvent in non-observational studies, although the researchers tried to account for both by the style of questions and by validating the findings with the UNICEF Colombia, Guatemala, and Mexico country offices.

Finally, the primary limitation in the literature review is that it does not include grey literature. This was a decision made for two reasons: First, grey literature is difficult to find because it is irregularly indexed in databases of relevant literature. Second, grey literature is not peer-reviewed and in the context of nutrition and behavior change, the researchers felt that prioritizing scholarly, peer-reviewed literature would increase the reliability and validity of the findings and analysis.

Setting: Countries and Regions

Latin America is a diverse region in terms of natural resources, cultural and culinary traditions. The selection of the three target countries was finalized by MAGENTA during the inception phase, in collaboration with UNICEF. Colombia, Guatemala. and Mexico were chosen because they reflect the geographic and socio-cultural diversity across Latin America.

Considerations looked at having geographic representation, with countries considered as small, medium, and large, that are part of major areas of the region: North America, Central America, and South America. These countries are also considered to be representative of the region in terms of the influence of culture and traditions on food. Each country also is experiencing the double burden of malnutrition. They present significant national rates of stunting and obesity, and challenges and opportunities related to socio-economic conditions and policy regulations. Moreover, each country is at a different stage of the nutrition transition, with Mexico being the most progressed, followed by Colombia and Guatemala respectively.

The research has focused on people in communities that have less access to information and diversity of food and for whom the costs of poor health are outsized. Both KIIs and FGDs were conducted in rural and urban areas. Additionally, there was an approximately equivalent gender representation, based on participants' self-identification. The sample (see further details in Annexes B and D) was purposively selected, and demographic details were considered to allow for the disaggregation of data (i.e., gender, age, urban / rural locality, and socio-economic status).

The two tables below present the main sociodemographic characteristics that were gathered from mothers, fathers and adolescents in Mexico and Colombia during the recruitment process. This was done to have a sense of their vulnerability factors and confirm that the data collection would be addressing the objective population and gathering insights that feed into the purpose of the study.

Geographic and sociodemographic characteristics of participants

This study aims to uplift the perspectives and voices of people who are, or who are at risk of, experiencing food insecurity, as well as people who are experiencing multidimensional forms of social vulnerability. This decision was made for two reasons. First, people experiencing food insecurity and multidimensional forms of vulnerability are also more likely to experience the double burden of malnutrition. Second, focusing on socio-economic vulnerabilities enables strategists to design policies and programs that support those more likely to experience marginalization and more likely to benefit from nutritional and health support.

The national demographics of Colombia, Guatemala, and Mexico reflect a highly diverse general population with diverse ethnic groups and socio-economic experiences that are differentiated in each region. The findings below summarize the demographic characteristics of people in the study in the regions where it was conducted.

Colombia

Participants from Colombia lived in the departments of Antioquia, Boyacá, Bogotá, and Caldas. Most participants lived in the departments of Antioquia, which is in northwest Colombia and extends from the Andes Mountains to the Caribbean Sea, and Boyacá, which is in the Andean region of central-east Colombia. Participants lived across urban (city center and greater municipal) and rural (peri-urban and rural) parts of the department.
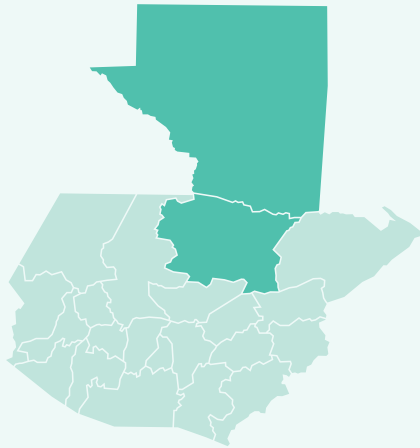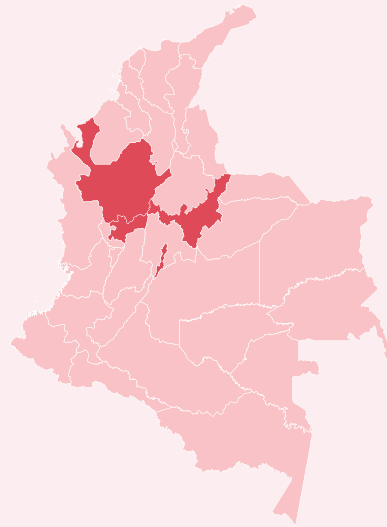
Guatemala

Participants from Guatemala lived in the departments of Guatemala and one participant was from Alta Verapaz (Cobán). The department of Guatemala, which is in south-central Guatemala, is home to Guatemala City. They lived across urban (city center and greater municipal) and rural (peri-urban and rural) parts of the department.

Mexico

Participants from Mexico lived in the State of Mexico, Mexico City, Oaxaca, Querétaro, and Jalisco. Most participants lived in the State of Mexico, Mexico City, and Oaxaca, which is in south-west Mexico. They lived across urban (city center and greater municipal) and rural (peri-urban and rural) parts of each region.

The findings below reflect the experiences of people from the study living in these regions with access to the internet and experiencing financial vulnerability. The findings thus aim to represent the experiences of people in this sub-population, rather than represent the national population.

For comprehensive information about the national demographics of each country, please see the 2018 national census conducted in Colombia ; the 2018 national census conducted in Guatemala ; and the 2020 national census conducted in Mexico.

The sections below summarize the sociodemographic characteristics of participants in the study.

Sociodemographic characteristics of adult participants from Colombia

Most participants from Colombia were under 40 years and experienced at least two forms of socio-economic vulnerability, with most socio-economic differences occurring by gender and geographic location. Women participants from urban areas tended to be younger than men from urban areas, while women in rural areas tended to be older than men in rural areas. Men in both urban and rural areas had approximately the same average age. Across both rural and urban locations, adults had approximately the same levels of education, with most completing high school. The average household size in urban communities, where it was about 3.7 people, was larger than in rural communities, where it was about 2. All participants earned less than 1 million Colombian pesos per month (about 285 US dollars, which aligns with the current legal minimum salary in Colombia). Women in urban areas were more likely to earn less than 700,000 Colombian pesos per month (about 135 US dollars) than men in general and women in urban areas. Men in rural areas tended to earn more than men in urban areas. Furthermore, women in urban areas were more likely to report experiences of socio-economic vulnerability than men. Nearly three quarters of women in urban areas said that they had to change their residence at least once due to violence, political or economic reasons. Likewise, nearly all were experiencing chronic unemployment, about half lived with a disability, and about half received support from government programs. Only one person in the study reported that they were from an Indigenous community.

Sociodemographic characteristics of adolescent participants from Colombia

While most adolescents were 15 years old on average, there were several socio-economic differences by age and gender. In urban areas, adolescents were more likely to be in 7th to 10th grade, while in rural areas adolescents were more likely to be in 8th to 11th grade. The average household income per month was higher in rural areas than in urban areas. Adolescents in urban areas were more likely to say that they experienced other forms of socio-economic vulnerability, specifically changing residence due to violence, political, or economic reasons, disability, unemployment, and government support. Adolescent boys in urban reported more than adolescent girls in urban areas that their families had changed their residence at least once. These findings show that adolescent participants in urban areas are more likely to experience multiple forms of socio-economic vulnerability, although all participants experienced at least once form of vulnerability.

Sociodemographic characteristics of participants from Colombia

	Urban Context				Rural Context			
	Mothers	**Fathers**	**Female adolescents**	**Male adolescents**	**Mothers**	**Fathers**	**Female adolescents**	**Male adolescents**
# Participants	18	11	7	7	6	11	7	6
Average Age	30	36	14.8	15.1	37.5	36.8	15.5	15
Last education degree	High School (14) or technical professional (4)	Secondary School (4), High School (4) and professional (3)	7th to 9th grade in High School	7th to 10th grade in High School	Secondary school (1), High School (4) and professional (1)	5th grade of elementary (1), secondary school (2), HS (7) and technical (1)	8th to 11th grade in High School	8th to 10th grade in High School
People living in their household (average)	4	3.4	4	4.1	3.8	1.8	4.1	2.8
Household Income								
- $700K COL per month	13	5	4	6	3	4	1	4
$700K to $1M	5	6	3	1	3	7	6	2
$6,800 to $11,599	0	0	0	0	0	0	0	0
$12,000 to $32,000	0	0			0	0	0	0
Vulnerability Factors								
Belongs to an Indigenous group	1	0	0	0	0	0	0	0
Religion or belief discrimination	5	1	1	0	0	2	0	0
Change of residence due to violence, political or economic reasons	13	4	3	6	2	4	1	0
Gender and Sexual Diversity	0	0	0	0	0	0	0	0
Disabilities	8	2	0	2	2	2	0	0
Out of work + 3 months	9	6	4	3	4	4	1	0
Support from government programs	10	3	3	5	1	4	3	2
Remittances	0	0	0	0	0	1	0	0

Table 6 Socio-demographic characteristics of participants from Colombia

Sociodemographic characteristics of adult FGD participants from Guatemala

Participants in Guatemala experienced a range of socio-economic vulnerabilities in both urban and rural areas. On average, the age of men and women in rural and urban areas was similar. Men tended to be above 40 years old, while women were in their mid to late thirties. Participants of both genders tended to be older in rural areas. The average household size in urban areas, where it was about 5.5, was larger for both men and women than in rural areas, where it was on average 4.9. However, adults in urban areas also had more range in their household monthly income as well as tended to have higher levels of education. Moreover, men in urban areas were more likely to have some university education than women, over half of whom had 1st-3rd grade and a third of whom had 6th grade education. In rural areas, adults had more education than women in urban areas and were split by gender: half had primary school education while half had high school education. There was also more economic diversity in urban household. About two thirds of women in urban and rural areas reported that their households earned less than 3,200 Quetzales per month (about 414 US dollars, which aligns with the legal minimum salary in Guatemala). Conversely, about two thirds of men in urban areas reported that they earned at least 3,200 Quetzales per month and up to 7,200 Quetzales per month (about 990 US dollars), with only one third saying that they earned less than 3,200 Quetzales. Likewise, nearly thirds of men in rural areas also reported earning more than 3,200 Quetzales per month and one reported that he earned up to 7,200 Quetzales per month.

In terms of social forms of vulnerability, most parents experienced at least one form of social vulnerability and women and people living in rural areas were more likely to experience multiple forms. Nearly all adults reported that they experienced chronic unemployment in addition to other forms of vulnerability. Half of adults in urban areas said that they had to change their residence at least once due to violence, political, or economic reasons. Nearly two thirds of women and one third of men in rural areas had to change their address. Just under a third of men in both urban and rural areas said that they lived with a disability, while no women reported a disability. Nonetheless, women in both urban and rural areas were about as likely and more likely than men to receive governmental support. Less than one third of adults of either gender or geographic location reported that they received remittances from family members abroad. Moreover, half of women and two thirds of men in rural areas reported that they experienced religious discrimination, while less than a third of adults had experienced it. Finally, about a third of men in the study from rural areas were members of an Indigenous community.

Sociodemographic characteristics of adult FGD participants from Guatemala

While adolescents in Guatemala also experienced a range of socio-economic vulnerabilities, limited education was a vulnerability of nearly all participants. The average age of adolescents in rural areas was 15 years while in urban areas it was about 14.4 years. In urban areas, adolescent girls were more likely to have completed secondary school, over half of adolescent boys had completed only between 1st and 6th grade education. In rural areas, most adolescent girls had completed primary school, while no adolescent boy had completed more than 3rd grade education. Adolescents in both urban and rural areas were about as likely to say that they had to change their residence at least once due to violence, political, or economic reasons. Nearly all adolescents in both urban and rural areas said that they had experienced chronic unemployment, which suggests that many of them work rather than attend school. More adolescents in rural areas reported that they experienced religious discrimination, while few in urban areas said that they had experienced this. Finally, only two adolescents in rural areas and one adolescent in an urban area said that they were members of Indigenous communities.

Sociodemographic characteristics of participants from Guatemala

	Urban Context				Rural Context			
	Mothers	**Fathers**	**Female adolescents**	**Male adolescents**	**Mothers**	**Fathers**	**Female adolescents**	**Male adolescents**
# Participants	12	12	6	6	12	12	6	6
Average Age	35.9	41.3	14.2	14.6	38.5	43	15	15
Last education degree	1st - 3rd grade (7), 6th grade (4), high school (1)	3rd grade (1), 6th (2), high school (3) unfinished university (6)	Students: primary School (1), secondary school (5)	1st – 6th grade (4), high school (2)	Primary School (6), High School (6)	Primary School (6), High School (6)	Primary School (5), High School (1)	1st - 3rd grade (6)
People living in their household (average)	6.25	4.8	5.5	3.6	4.6	5.25	6	6.5
Income considering everyone's earnings living in the same household								
- $3,200 Q per month	9	3	3	2	8	2	4	5
$3,201 Q to ·3,400 Q	0	6	1	2	3	8	2	1
$3,401 Q to $7,200 Q	3	3	2	1	1	1	0	0
$7,201 Q to $11,900 Q	0	0	0	1	0	1	0	0
Vulnerability Factors								
Belongs to an indigenous group	0	2	0	1	1	4	1	1
Religion or belief discrimination	2	3	3	3	6	9	4	3
Change of residence due to violence, political or economic reasons	6	6	3	2	8	4	4	3
Gender and Sexual Diversity	0	0	0	0	0	0	0	0
Disabilities	0	3	1	0	1	2	0	0
Out of work + 3 months	10	11	4	4	10	10	5	5
Support from government programs	7	1	3	2	8	4	2	1
Remittances	2	2	0	3	1	3	1	1

Table 7 Socio-demographic characteristics of participants from Guatemala

Sociodemographic characteristics of adult FGD participants from Mexico

Participants in Mexico experienced a range of vulnerabilities, most of which were economic. The average age of women and men in urban and rural areas was similar: Women in both areas tended to be in their early-mid 30s, while men in both areas tended to be in their late 30s. Likewise, the size of households in both urban and rural areas were substantially similar. In urban areas, most women had completed high school education, while most men had completed only secondary school. In rural areas, half of women had completed high school about a third had completed some university education, while two thirds of men had a university degree. Household incomes followed a similarly urban and rural divide: in rural areas, households tended to earn more while in urban areas they tended to earn less. Namely, most women in rural areas reported household earnings between 2,700-6,799 Mexican pesos (131-331 US dollars, the current legal minimum wage) per month, while two thirds of men reported household earnings between 6,800-11,599 Mexican pesos (331-565 US dollars) per month. In urban areas, most women and men reported household earnings between 2,700-6,799 Mexican pesos (131-331 US dollars) per month and two men reported household earnings 6,800-11,599 Mexican pesos (331-565 US dollars) per month.

The social forms of vulnerability of vulnerability that people experienced were varied, but mostly linked to economic vulnerability. In each age and gender group, one person said that they had to change their address due to violence, political or economic reasons, and no one in rural areas reported this experience. All the participants who had to change their residence were from cities in the State of Mexico. About a third of participants in urban areas and less than a third in rural areas experienced chronic unemployment. Only a few families in urban areas received government support, and of them, men were more likely to report that they received governmental support. Moreover, two fathers in urban areas said that they were gay, transgender or queer. About a third of participants in rural areas were members of Indigenous communities, whereas only two men in urban areas were from Indigenous communities. People in rural areas were also more likely to experience religious discrimination, with a third of men saying that they had experienced this compared to two men in urban areas.

Sociodemographic characteristics of adolescent FGD participants in Mexico

Adolescents in Mexico experienced a range of socio-economic vulnerabilities, although most were tied to economic vulnerability. The average age of adolescent participants in urban areas was 14.85 years, and the average age of adolescent participants in rural areas was 15.15 years. In urban areas, most adolescent girls and boys had completed secondary school, which most students complete at about age 15 before entering high school. In rural areas, about nearly all adolescent girls reported their highest level of education so far as secondary school, and half of adolescent boys reported secondary school and another half reported high school. Few adolescents in either urban or rural areas reported that they had to change their address due to violence, political, or economic reasons (see Vulnerability Factors in table below). More adolescent girls from urban areas said that they received government support in the form of social welfare and that they were chronically unemployed. No adolescents said that they were lesbian, gay, transgender, or queer. Likewise, no adolescents said that they had a disability. A few adolescents in both urban and rural areas said that they experienced religious discrimination, and only two adolescent boys in rural areas said that they were from Indigenous communities.

Sociodemographic characteristics of FGD participants from Mexico

	Urban Context				Rural Context			
	Mothers	**Fathers**	**Female adolescents**	**Male adolescents**	**Mothers**	**Fathers**	**Female adolescents**	**Male adolescents**
# Participants	14	14	7	6	13	12	6	6
Average Age	35.3	35.5	15.1	14.6	32.23	38.3	15.3	15
Last education degree	Elementary school (1), secondary school (11), and high school (1)	Secondary school (11), high school (1) and university degree (1)	Middle school (1), secondary school (5), high school (1)	Secondary school (5) and high school (1)	Secondary school (3), high school (6), and university degree (3)	Middle school (1), secondary school (2), high school (1) and university degree (8)	Secondary school (5) and high school (1)	Secondary school (3) and high school (3)
People living in their household (average)	4.3	3.6	4.14	4	4.3	3.6	4.5	4.16
Income considering everyone's earnings living in the same household								
- $3,200 Q per month	0	1	1	1	0	0	0	0
$3,201 Q to ·3,400 Q	14	10	5	5	9	4	3	3
$3,401 Q to $7,200 Q	0	2	1	0	4	8	3	3
$7,201 Q to $11,900 Q	0	1	0	0	0	0	0	0
Vulnerability Factors								
Belongs to an indigenous group	0	2	0	0	3	3	0	2
Religion or belief discrimination	2	2	1	2	1	4	0	1
Change of residence due to violence, political or economic reasons	1	1	1	1	0	0	0	0
Gender and Sexual Diversity	0	2	0	0	0	0	0	0
Disabilities	0	0	0	0	1	1	0	0
Out of work + 3 months	4	5	7	2	3	4	0	0
Support from government programs	2	4	6	2	0	1	2	3
Remittances	0	0	1	0	0	0	0	0

Table 8 Socio-demographic characteristics of participants from Mexico

Colombia:
Main Findings

Geographic Context

Participants from Colombia lived in the departments of Antioquia, Boyacá, Bogotá, and Caldas. Most participants lived in the departments of Antioquia, which is located in northwest Colombia and extends from the Andes Mountains to the Caribbean Sea, and Boyacá, which is located in the Andean region of central-east Colombia. Participants lived across urban (city center and greater municipal) and rural (peri-urban and rural) parts of the department.

The findings below reflect the experiences of people from the study living in these regions with access to the internet and experiencing financial vulnerability. The findings thus aim to represent the experiences of people in this sub-population, rather than represent the national population.

Eating Habits and Practices

Rural Communities

Number of meals

Many participants in rural communities described having only two meals per day because they could not afford more meals. This decision is demonstrative of the economic hardship that nearly all respondents experienced: They shared that the Covid-19 pandemic worsened the food insecurity that they experienced because it increased food inflation rates, which hovered around 25-26% . To compensate for this, many people reduced food expenditures and tried to make their food purchases last, sometimes for up to two weeks. This resulted in many families eating only breakfast and dinner, or breakfast and lunch. Many parents of children in government-run pre-primary schools, shared that they were reliant on school meal programs, which included breakfast, lunch, and snack, as a type of economic support for families with young children.

Typical variety of ingredients

Despite the reduced number of meals, most people in the study ate a variety of mostly unprocessed foods. Breakfast in some regions typically included foods like arepa, which is a type of maize patty that is often filled like a sandwich with cheese or eggs, or they ate a different carbohydrate rich and a protein rich food, e.g., rice and chicken. Most adults and adolescents drank panela water or hot chocolate with breakfast. Panela water is a traditional South American beverage that is made from infusing hardened sugar cane in water and that can be consumed hot or cold. Only a few said that they drank coffee in the morning, and very few commented on whether and how much plain water they drank. Lunch and dinner foods included salads with vegetables like lettuce, tomatoes, cabbage, cauliflower, carrot, chicken, and legumes (e.g., lentils), as well as other traditional Colombian foods like potatoes, rice, plantain, peas, lentils, beans, leafy greens like lettuce, and a protein rich food like eggs, pork (especially pork rind, which they said was less expensive), and chicken.

Meals included limited amounts of ultra-processed foods because most people found the prices of these foods to be unaffordable. When people consumed sugar, it was generally in beverages and for desserts, the latter of which they described eating for celebrations. Sweetened beverages included panela water, hot chocolate, soft drinks, teas, and juices. Many people described panela water and hot chocolate as being healthier because they are made with unrefined whole sugar cane. Beverages, discussed in the section on beverages below, appeared to one of the main sources of processed sugar that people consumed daily.

Few families said that they grew food on their property because the economic maintenance costs were high. For those who grew foods, they typically grew fruits and vegetables, such as avocado, yucca, banana, and citrus. Several shared that raising animals was unaffordable and, for this reason, they did not raise animals. This shows that the main foods that people grow are fruits, vegetables, and carbohydrate rich foods because they require a low cost. This indicates that economic scarcity impacts norms and aspirations because they delimit what can and cannot be done and can further contribute to food insecurity.

Ingredient selection

For most of the interviewed families in rural areas of the study, affordability, proximity, and quality were the three characteristics that people sought in food purchases. Of the three, affordability and proximity were the most important. People described quality in terms of how the food tasted and whether it was "whole". For example, many said that lower priced milk tasted watery and that it had a higher water to fat content. Others said that lower priced rice often had rice grains that were "broken" and crushed. They tried to avoid foods that they considered to be of low quality. However, they were sometimes willing to purchase these products if they were more affordable. This indicates that most people are seeking the best value for money and that they are looking to make their resources stretch as far as possible.

While affordability, proximity, and quality of food were important aspects of food decision making, the social norm of reciprocity with local food purveyors was also an important experience and the basis of meaningful relationships with them. Many people bought food at supermarkets, in particular D* [Colombian supermarket chain with discounted products], but nearly all described disliking the quality of ingredients from D*. However, they had positive experiences with food quality, affordability, and the personal relationships with small food purveyors. For example, one father shared that he appreciated the local shopkeepers selling produce at affordable prices in exchange for his being a frequent customer. Another father shared that he gave his local shopkeeper a little extra "liga", or pocket change, in exchange for selling quality food at affordable prices. This shows a descriptive norm that most people seek affordable options with small food purveyors and that there is an injunctive norm of reciprocity through loyalty and mutual support. Together these indicate that there is a social norm of reciprocity with shopkeepers and that these are important foundations of relationships with local food purveyors and that they are drivers of customer loyalty and happiness.

Meal preparation and serving

Most participants said that women were the primarily people responsible for meal preparation, while eating dinner was a family activity. In rural areas, this was more pronounced but existed in both urban and rural areas.

Many people ate breakfast and lunch alone, but ate dinner with their family, as well as ate meals together on the weekend. Most adolescent girls said that they knew how to prepare several types of meals, while adolescent boys tended to say that they only knew how to make foods, e.g., boiled rice or panela water. Moreover, more girls said that they participated in serving meals. Conversely, adolescent boys and adult men tended to say that they rarely participated in meal preparation and serving and did so only when their mothers or wives were unavailable or not at home. This shows that adolescent and adult women tend to feel more capable of cooking and that it is an activity expected of them more than of adolescent and adult men. This indicates that there is a gendered difference in who knows how to cook and in who regularly cooks and that this difference constitutes a social norm.

Eating out

Most families ate at restaurants, cafes, and food stands once or twice per month. They took their families out to eat to show their affection for them when they had money to pay. One mother said that she and her family like to go to a local restaurant when they have money to pay for these foods. Similarly, several fathers also said that they ate out with their families once or twice a month and that they associated these experiences with recreation and quality time with their families. When eating out, people frequently ate processed foods and foods that were fat rich such as hamburgers, pizza, and salchipapas, which is a Colombian dish of thinly sliced beef and French fries mixed with savory coleslaw.

While adolescents described eating out in similar terms to adults, i.e., as a form of recreation, there were differences in the descriptive gendered norms of girls' and boys' eating out. Adolescent boys described going out to eat with their friends, while adolescent girls tended to say that they went out to eat with their families more often than with friends. This indicates that there is a gendered difference in the ways that adolescent girls and boys go out to eat.

Snacks and treats

Most adults and adolescents said that their snack and treat consumption was determined by whether they could afford these foods. Snacks were served mostly to young children because families felt that young children should not eat diets that were as restrictive. Similarly, people described eating treats like candy and dessert, as well as savory foods at restaurants and food stands, on payday and for celebrations.

The snacks that people ate or gave to their children were often sweet. Snacks included fruits, but usually were composed of foods like bread, cookies, pudding, as well as kumis, a fermented milk beverage. While one father said that he sometimes gets very hungry and eats a carbohydrate rich snack between meals, this was not the norm for most people. Snacks were not foods that people ate idly. Rather, they were eaten intentionally to stave hunger between meals.

Treats were similarly eaten with intention, usually for celebrations or after payday. Many people associated buying treats with economic wellbeing and affection: Adolescents described buying themselves treats if they had money, often on their way to and from school, and both adolescent girls and boys appeared to have similar habits around snacks and treats.

Both adults and adolescents often described eating or giving themselves and their children treats to show love and care by "pampering" themselves or others. One father, for instance, said that he only buys ultra-processed foods when he goes to town and wants "to pamper [my] family", but that "if [he] had money" he would "keep [his] fridge full of soda with many foods that are also harmful". Mothers, conversely, tended to say that they gave their children fruits and protein rich foods as snacks and permitted their children to have occasional treats. This demonstrates that there is a gendered norm around child feeding and care, where women are expected to consider and actively managed their children's dietary intake, while men facilitate leisure and recreational activities like eating treats.

Beverages

Beverages were the main source of processed sugar in rural households. Most adults and adolescents said that they drank panela water or hot chocolate with breakfast, both of which are common breakfast beverages in the departments of Antioquia and Boyacaá, where drinking sugagr-sweetened beverages is a custom. If they had the economic means then they also often drank a variety of sugar-sweetened beverages throughout the day, including carbonated sugar-sweetened beverages, powdered fruit-flavored beverages, and sweetened juices like guava and mango. Families that could not afford these beverages tended to emphasize the negative health effects of carbonated sugar-sweetened beverages, such as how it could contribute to gastritis and poor health outcomes. Instead, they said that they drank homemade sugar-sweetened and juice-based beverages. Virtually no participants said that they regularly drank plain water, which indicates that the descriptive norm among many households is to consume sugar-sweetened beverages with and between meals.

Most people also shared that they were familiar with drinking carbonated sugar-sweetened beverages for remedial purposes They drank carbonated sugar-sweetened beverages with lemon for indigestion and colds. Sometimes they boiled it into a syrup resembling other medicinal syrups. This shows that there is an ambivalence around the health implications of carbonated beverages, with both awareness of the negative health implications and a norm around its specific uses as a remedy. It also indicates

that there is a social practice of preparing carbonated sugar-sweetened beverages as remedies to alleviate symptoms of common illnesses.

While many adolescents said that they did not regularly drink carbonated sugar-sweetened beverages, they similarly shared that they had strong brand associations with beverages, particularly those from Colombia and Venezuela. One adolescent boy shared that at home there are always sugar-sweetened beverages to drink. He considered "soda" to be unhealthy and something that he does not regularly drink, but he said that he regularly drinks Colombian brands of carbonated sugar-sweetened beverages several times per week. This shows a gap in knowledge about what is a "soda" ("refresco"), i.e., a carbonated sugar-sweetened beverage.

Many people thought of carbonated sugar-sweetened beverages and other sweetened, sugar-sweetened beverages as categorically different types of beverages with different health implications. Nearly all participants said that carbonated sugar-sweetened beverages were unhealthy because they had a high amount of sugar. Fewer people described juices and sweetened teas as being unhealthy. For instance, one adolescent boy said: "At home there is always something to drink: juice, soda or M*, but what I like the most is mango or blackberry juice and H* [brand of carbonated sugar-sweetened beverage]." Another boy said, "I drink S* [brand of sugar-sweetened iced tea] and fruit juice. I don't drink soda, it is bad. They told me at school that it is bad. It is fattening. This is why I rarely drink soda." These passages shows that there is a knowledge and salience gap about what constitutes a sugar-sweetened beverage, as well as why other forms of sugar-sweetened beverages can have negative impacts on a person's health.

Urban Communities

Number of meals

While most of the respondents from urban communities shared that they ate about three meals per day, many experienced some form of food insecurity. For some, this meant that they reduced the variety of foods in their diets. For others, this meant that they reduced the quantity of foods in their diets. Some people reduced both the variety and quantity of foods. One father shared that he and his family eat two meals per day and that they often eat eggs and arepa. This shows that in constrained economic contexts, people prioritize eating protein and carbohydrate rich foods, which were more satiating than fruits and vegetables. While many respondents said that they did not eat snacks or light meals between main meals, due to the expense, but that also said that they eat sweet foods (e.g., candies) and sweetened beverages throughout the day and with meals.

Typical variety of ingredients

Urban households ate a variety of foods, including fruits and vegetables, and protein and carbohydrate rich foods (e.g., in the form of arepa and potato), as well as sweetened foods and beverages. Typical fruits and vegetables that people ate included banana, pineapple, apple, and mango, as well as leafy greens, carrots, potatoes, tomatoes, onions, and legumes. The cost of produce was a barrier for many households, and many people said that they looked for the most economical options. Most people ate animal-based proteins like eggs, cheese, beef, chicken, pork, and fish daily. Many people also frequently ate sweetened foods throughout the day, such as pre-packaged bread, cookies, and cake, as well as sugar-sweetened beverages with most meals and throughout the day. While some families said that they drank milk, few said that they drank plain water. Beverages included hot chocolate and panela water in the morning and sweetened beverages like panela water with lime, fruit juices, and flavored fruit beverages with most meals.

Ingredient selection

Most people shopped at a range of local markets and supermarkets to find the best quality for price. Many people bought bulk and other basic household items at a discount store called D* [supermarket chain with discounted products], and they bought fresh produce and meat at local markets, because the prices were lower. Typically, people bought groceries once every two weeks, and they often had to travel at least thirty minutes and up to an hour or more to reach their destination, most often by foot but sometimes by car or by taxi. There were many ingredients that participants did not buy because the costs were high. One father for instance said that his family did not buy fruit because it would make essential protein-rich foods unaffordable. This indicates that buying groceries requires a significant amount of both time and money, which were limited for many people.

While some participants received governmental support to buy groceries, most people did not receive support and consequently reduced the amount and variety of foods purchased. Several mothers shared that the price of many basic items, e.g., eggs and potatoes, had doubled. Due to inflated prices, buying groceries often presented an economic hardship for people who were already experiencing economic scarcity. They had to make calculated decisions that balanced their families' needs for satiety, e.g., prioritizing protein rich foods, as well as decisions that were economically feasible.

Meal preparation and serving

Both parents frequently participated in meal preparation and serving, and gender norms around the division of household labor in urban households appeared more flexible than in rural households. Many men in urban households expressed motivation and capability to make meals, even if they did not feel as adept at making meals as their partners or mothers. For instance, one woman shared that her husband makes meals on the weekends. This willingness was shared among many other men, who said that they frequently made meals like breakfast and lunch, as well as one single father who said that by necessity he had to learn. This indicates that while there is a gendered norm for women to prepare and serve meals, there is more flexibility in urban households than in rural households.

Additionally, preparing meals was often a family activity, where younger and older children learned how to cook and take part in household activities. One mother, for instance, involved her entire family, including her toddler in meal preparation:

> " *Well, I involve all the family. My baby is two years old, and the girl is 5 years old, and then at night I tell them we are going to make the salad: the boy brings the tomatoes, the girl gets the cucumber, the girl washes the tomatoes. My husband helps me on weekends. He says let's make some beans. He cooks and I season the meat and we make grilled meat. As to varying the menu, I call him and ask him what he wants.* "

Several other families also shared that both parents and children participated in making meals. Children often helped to cook, set the table, and wash the dishes, which increased the salience and the feeling of collaboration, inclusion, and knowledge about cooking among family members.

Eating out

People in urban communities frequently went out to eat at cafes, food stands, and international food chains. Most people went out to eat once or twice per month for pizza, hamburgers, salchipapa and other foods if they had money to spend. They considered eating out to be a treat and a form of recreation with family and friends. They also enjoyed the variety and convenience that eating out provided.

To prioritize eating out, many parents, and particularly fathers, paid close attention to meal promotions at large international restaurants, or they patronized small street vendors, which they considered to be more affordable. One father shared that he goes out to eat with his family twice a month on Saturday or Sunday "when there are promotions" so that "we get a discount". This shows that eating out with family is a recreational activity and a family ritual. The father prioritizes eating out by finding discounts on meals at restaurants. Furthermore, fathers were more likely to say to say that they initiative plans to go out to eat. This demonstrates a descriptive gender norm because it shows that men are more often the people to initiate and make the decision to eat out.

While respondents did not discuss explicitly that they consider eating out to be a form of affection, they emphasized the ways that they prioritize it and aim to make eating out a regular activity in their families. This underscores that people value the time that they spend with their families and that eating out is a vector for spending time together. To this end, one mother shared that she and her husband occasionally eat out together and bring home treats to their children. She shared:

> *We have two children and to go out, we have to use the car, because it's not safe to ride in the motorcycle and it's expensive. So, maybe my husband and I go out and eat something and we come back home and make something, rice pudding, a colada or something with bread, so that we can all be together.*

This passage shows that the attachment to eating out lies in spending time with family and the enjoyment of a shared special meal. Another father similarly shared that he enjoys buying ingredients to make hamburgers at home for his family. His anecdote emphasizes the importance of commensality, food variety, and time with family as a form of recreation. This anecdote further demonstrates the gender norm around the gendered division of household labor because it shows that men's participation in meal preparation is normal in contexts where cooking is considered leisure and recreation, rather than work.

Snacks and treats

Many parents reserved snacks for young children. This indicates that snacks are considered non-essential in comparison to other meals and social experiences. Young children ate a range of foods as snacks, including cookies, arepas with cheese and chocolate, fruit, yoghurt, juice, and chocolate milk. Many adolescents, conversely, ate small food items and snacks from convenience stores, as they were rarely able to afford eating out at restaurants by themselves. This indicates a descriptive norm here, namely that snacks are reserved for young children and that they are less normal for adults to eat.

For many adolescents, buying snack foods was a way to explore independence. For instance, in one conversation, a group of adolescent boys shared that they bought chocolate and chocolate bread and cake at stores near their homes, but that they less frequently went out with friends. This suggests that snacks provided them with an opportunity to begin exploring their personal tastes and economic decision making.

Beverages

In urban households, beverages were the main source of processed sugar that people consumed daily. Adult and adolescents drank panela water and hot chocolate in the morning and a variety of processed and homemade beverages throughout the day. Most people, both adults and adolescents, talked about these types of beverages as essential, rather than occasional, parts of their diets in the departments of Antioquia and Boyacá, where drinking sugar-sweetened beverages (traditionally from cane sugar rather than ultra-processed sugars) is a custom.

Many people described feelings of habit formation around consuming these beverages: they were aware, and even concerned, that high consumption of sugar could be harmful to their health, but they felt unable to change their habits. For example, one mother shared:

> " *It's not that we love it. We know it has too much sugar and is bad for health, but it is a must. C* [brand of carbonated sugar-sweetened beverage] and P* [brand of carbonated sugar-sweetened beverage] sodas are a must. We always buy the large size, the mega bottle, for the week.* "

In this passage, the mother shares that they do not particularly like sodas, but that she and her family feel that it is indispensable to their diets. This is potentially because sugar, and in particular fructose, can be habit forming. This feeling is also potentially caused by the length of time it has been in their diets, in other words, that it is hard to change something that feels normal. Other people also expressed sentiments of habit formation, despite knowing that drinking soda can be harmful to one's health. One father, for instance, said:

> " *If you look for information on C* [brand of carbonated sugar-sweetened beverage], it will tell you that it is bad, but you consume it anyway because of advertising. It is the same with cigarettes and smoking, we know they are bad, but they are also very addictive.* "

This passage is important because it shows the process of how these beverages become fundamental parts of people's diets: It suggests that the advertising, which he said is "the same with cigarettes and smoking", initially captures the attention of potential consumers. These advertisements express aspirational and inaccurate images about the types of social interactions, the type of life, and the type of body and beauty that this soda will enable. These advertisements are enticing and encourage people to try the beverages, which can subsequently become part of their everyday diets.

Adolescents shared ambivalent views about drinking sugar-sweetened beverages. Some said that they did not drink carbonated sugar-sweetened beverages frequently and opted instead for juices, sweet tea, and water flavored with powdered fruit flavors. Others expressed a feeling of dependency and pessimism about their health, while others were motivated to avoid carbonated sugar-sweetened beverages. One adolescent boy, for instance, said, "When I drink C* [brand of carbonated sugar-sweetened beverage], I am not thinking how many spoonfuls of sugar it has." This passage shows the important point that that carbonated sugar-sweetened beverages are enjoyable to drink, unlike other beverages that can be bitter or less palatable. Another adolescent girl expressed a more pessimistic view about her health, in which she said:

> " *I don't pay attention to those things; I never think that something bad is going to happen to me. There have been campaigns at school, and they tell what your sugar levels should be; mine are sky high but I don't mind.* "

This passage shows that some people may feel negatively about public health programming. It is also possible that this adolescent feels incapable to change the circumstances of her health, which she indicates when she said that her sugar levels are "sky high". This may contribute further to a feeling of negativity about one's capability to change the circumstances of their health.

Drinking sugar-sweetened beverages starts at a young age for most of the children in urban households. Many parents in Colombia said that they gave their children juice and chocolate milk for snacks and as beverages, indicating that many children develop a taste for sugar-sweetened beverages while they are young. Furthermore, many children also had their first tastes of carbonated sugar-sweetened beverages when they were toddlers or just past toddlerhood. This indicates that drinking these beverages is part of children's maturation process: As they mature from toddlers into young children, trying and experiencing carbonated sugar-sweetened beverages is part of this experience of growing up.

Adults, more than adolescents, said that they drank carbonated sugar-sweetened beverages daily, which indicates that these beverages may be considered more of an "adult" drink than one for adolescents and children. One mother, for instance, said that she drank at least one carbonated sugar-sweetened beverage at lunchtime and that her husband frequently brought drinks home after work if there were extras from work. This shows that carbonated sugar-sweetened beverages are highly accessible within people's environments and often made available at work. To this end, one father said that he drinks several liters of carbonated sugar-sweetened beverages every day depending on what is available at work and at home. This shows that carbonated sugar-sweetened beverages have largely replaced water and non-sweetened beverages in this person's life.

While many people talked about carbonated sugar-sweetened beverages as being unhealthy, they thought of other sweetened beverages as less harmful and even healthful. Powdered fruit-flavored beverages, sugar-sweetened iced tea, and juice were all in this category. For instance, one father said that "we want the children to drink juices", which suggests that he considers these beverages to be different from sodas. Another father said that he tries to limit the amount of carbonated sugar-sweetened beverages that his children drink because it is harmful. However, he also said that he does not try to limit their consumption of Colombian brands of carbonated sugar-sweetened beverages because he does not consider these beverages to be harmful. This suggests that there is a descriptive norm among people in urban parts of Colombia that carbonated sugar-sweetened beverages are more harmful than other drinks.

Psychological

Behavioral Characteristics Influencing Eating and Physical Activity

Knowledge and Interests about Nutrition and Healthy Eating

Adolescents, aged 14-16

Adolescents were knowledgeable overall about nutrition, specifically about the importance of eating a range of fruit and vegetables in their diets. They were able to describe how and why they considered some foods to be "healthy" and other foods to be "unhealthy" by the amount and type of nutrients it contained, e.g., carbohydrates, fat, protein, and sugar, as well as how this could impact their health, e.g., that certain foods were beneficial for vision or could raise their blood pressure.

Conversely, their knowledge about the impact of sweetened beverages was varied. Virtually all adolescents considered carbonated sugar-sweetened beverages and other branded carbonated sugar-sweetened beverages to be unhealthy. However, while this understanding was nearly universal about carbonated sugar-sweetened beverages, it often did not always transfer to other branded beverages. Moreover, many adolescents considered juice to be a natural and therefore healthful alternative to carbonated sugar-sweetened beverages. This suggests that there is a knowledge gap about what makes beverages healthy or unhealthy.

Parents of children aged 0-5

Parents of young children were concerned with feeding their children a wide range of fruits and vegetables and they prioritized giving young children nutritionally dense foods. One father, for instance, said that when he and his family experienced economic hardship, they still aimed to give their children fruits and vegetables every day. This shows that there is a high level of awareness about the importance of nutritionally dense foods and what those foods include.

Like adolescents, parents of young children did not consider most non-carbonated sugar-sweetened beverages to be unhealthy, neither for themselves nor for their children. Young children were typically given juice or chocolate milk to drink for an afternoon snack. Many parents also shared that they drank sweetened beverages including carbonated sugar-sweetened beverages, but also panela water and juice. They were more familiar than adolescents with the ways that carbonated sugar-sweetened beverages could impact health negatively, although many regarded it as an essential part of their diets. Conversely, parents in rural households tended to say that they could only infrequently afford these beverages often, and they also said that this inability to afford the beverages was beneficial to their family's health. This suggests that economic scarcity, and in particular the inability to regularly afford non-essential items, may increase the salience of health information about those items.

Parents of children aged 6-19

Parents of older children and adolescents had a substantially similar level of nutritional knowledge as parents of young children, and they expressed concern over the variety of nutritionally dense foods that their children ate. While mothers tended to show more knowledge about the impacts of processed foods on health, both parents expressed concern about their children eating foods that they described as "junk". They expressed concern about the variety of naturally derived foods that their children ate, which included fruits and vegetables, as well as animal-sourced proteins, legumes, and bread.

They did not, however, express a significant concern about drinking sugar-sweetened beverages, particularly if the beverages were made at home or from naturally sourced ingredients like panela or juice. This suggests that there is a knowledge gap about the health impacts of certain types of nutrients, e.g., sugar, and that many people may base their health calculations on whether a food is naturally derived rather than on its nutrient profile.

Attitudes and Perceptions about the Meaning of Health and Good Nutrition

Adolescents, aged 14-16

Adolescents generally felt that eating a balance of healthful foods that "do good" to their physical and emotional wellbeing was central to health and good nutrition. One of the main patterns that emerged from the data was that health entailed both a balanced consumption of goods that were mostly fruits and vegetables, as well as a diet that was enjoyable and interesting to eat. This suggests that one of the social norms among adolescents is that they value variety in both the variety of ingredients and in the flavors that they consume.

Parents of children aged 0-5

Parents of young children tended to emphasize the variety and inclusion of "natural" foods and the moderation of "artificial" foods in their own and their children's diets. They had strongly positive attitudes toward foods that they considered to be natural, which included fruits, vegetables, animal-source proteins, legumes, and juices. They also shared that they felt that "artificial" foods were unhealthy and should be eaten sparingly. This presents a discrepancy between their attitudes about carbonated sugar-sweetened beverages which they described as artificial and their habitual consumption of carbonated sugar-sweetened beverages. This suggests that many parents drink sweetened beverages habitually and that the barrier to behavior change is high. For parents who drink these types of beverages weekly, it suggests that there may be an anchoring effect a play, where other parents' conception of sparing or infrequent consumption is based on comparing themselves to the consumption habits of people who consume these types of beverages daily.

Moreover, mothers tended to say that they tried to include healthy foods in their children's diets. Conversely, while fathers expressed similar concern for their children's health, they also shared that they were more willing to indulge children's tastes and that they saw providing sugar-sweetened foods as a treat and a sign of their affection and love.

Parents of children aged 6-19

Parents of older children held substantially similar views about what constituted good nutrition and health. They also emphasized the importance of eating a wide variety of "natural" foods and a moderate number of "artificial" foods in similar ways to parents of young children. They also shared that health is predicated on what a person eats and that it involves both physical and emotional wellbeing, rather than a particular body size. This suggests that parents' conception of health is behavioral and focuses on consumption patterns and emotional wellbeing as opposed to an idealization of one body size.

Perceptions about Body Image

To ensure the socioemotional well-being of FGDs participants, to collect sensitive information individually, and in adherence to the guidelines established for the ethical considerations of this research, a personalized survey was conducted to gather the perceptions of parents and adolescents regarding body image. Please note that this is not a representative sample of the entire population of Mexico, so statistics have been omitted. Rather, it reflects how participants view body image, and it can inform insights about larger trends.

To identify some of the ideas and perceptions of body images of men and women, participants reflected on the following scale:

Figure 4 Stunkard Figure Rating Scale (from Stunkard et al. 1983)

Perception of a healthy body of men

Men body types:
Perception of a healthy body vs representation in the community

■ Represents a healthy body   ■ Represents body types in the community
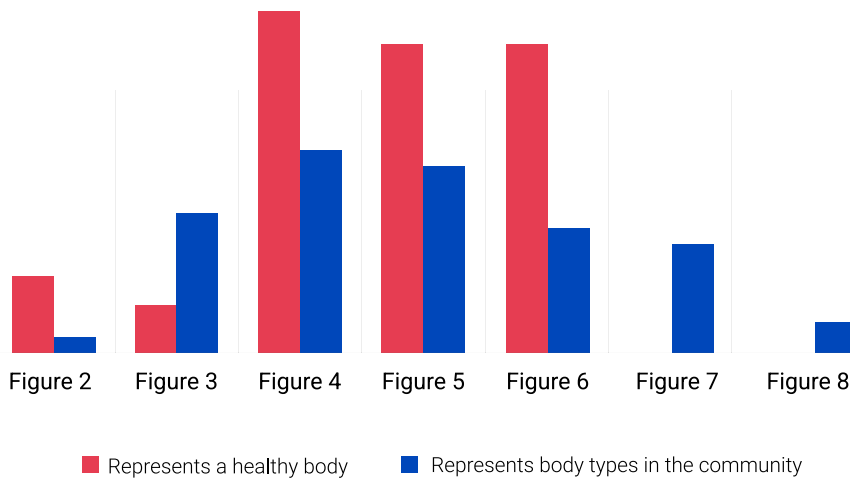
Table 9 Perception of Healthy Body Type vs. Representation of Body Type in Men

When asked how a healthy man body looks like, most responders chose figures 4, 5 and 6, while when asking how men look in their communities, respondents recognized a broader range of body types and some presence of obesity and overweight in their surroundings, from figures 4 to 8.

Perception of a healthy body of women

Women body types:
Perception of a healthy body vs representation in the community

Represents a healthy body   Represents body types in the community
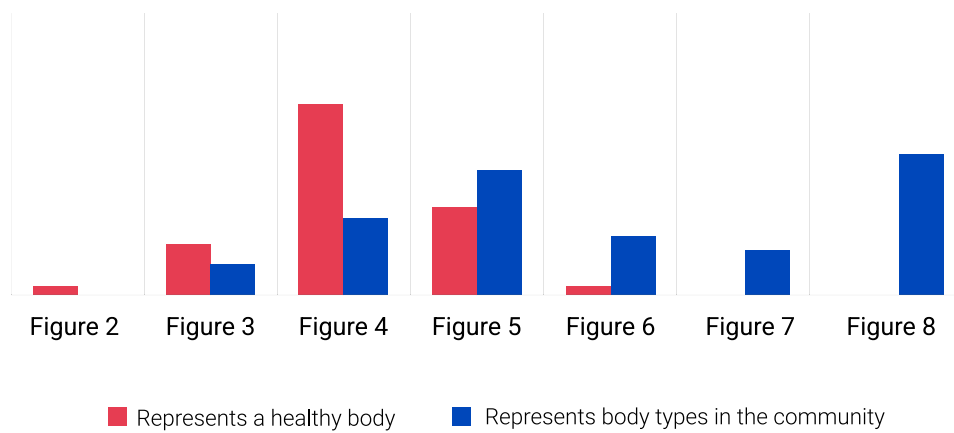
Table 10 Perception of Healthy Body Type vs. Representation of Body Type in Women

When participants were asked how a healthy woman body looks like, most considered figure 4 to be more representative. However, when asked how women look in their communities, responses ranged from figures 5 to 8, recognizing a broader range of body types and some presence of obesity and over-weight in their surroundings but slightly lower than the perception for men body types.

Perception of a healthy body of women

■ Some differences ■ No differences
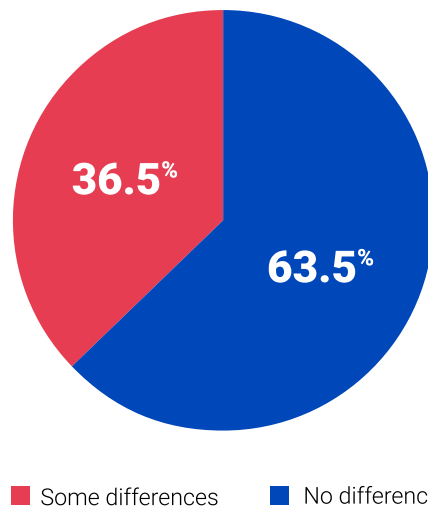
Table 11 Perceived Gender Differences in Presence of Overweight and Obesity in Community in Colombia

This graph shows that most people do not perceive that there is a difference in the rates of obesity and overweight among men and women. The type of body considered to be healthy was mostly figure 4 both men and women with a slightly higher margin for men; and most participants considered that there are no differences between bodies. A minority of Colombian participants mentioned that there are some different body types for men and women, some variances in body types according to gender, emphasizing differences in shapes and body mass, weight, and height, where men tend to have a larger body.

When participants were asked about ways to have and maintain a healthy body, the suggestions that were mentioned the most were:

- Having a healthy and balanced diet and eating healthy (with a clear reference to fruits and, and the importance of avoiding processed foods and fats).

- Exercising and physical activities.

- Having the habit of drinking water.

- Resting and having a healthy lifestyle in general.

The following word cloud visualization displays the most common words used when describing healthy behaviors: "physical activity", "water", "diet", "food", "balanced eating", "junk food", "sports", "exercising", "resting", "sleep", "exercise", "fruits", and "eating healthy".

Table 12 Word Map Representing Words Commonly Used to Define «Healthy» in Colombia

The conception that people have about constitutes a healthy body and health in general is likely informed and influenced by the messages that they receive from people around them, as well as from the messages circulating in their broader social networks. In the focus group discussions, many people said that they considered "health" to be related to a "balanced" diet and that they could identify health in people through physical characteristics, such as their level of energy and muscle tone. While the focus group discussions did not ask people to discuss body size and community norms in the group, the findings here suggest that many people consider thinness to be as sign of health and that this differs greatly from the norms in their communities. While the study did not investigate self-concept, this suggests that people may feel a pressure to be thin and likewise may feel dissatisfaction with their own bodies.

Sociological

Social and Cultural Factors Influencing Diet and Body Image

Families, Friends, and Social Influence

Family and friends were the most important forms of social influence on people's lives. The conversations that people had with family members and the norms established at the household level greatly influenced the ways that they understood health and nutrition. For instance, the distinctions that people made between "natural" and "artificial" foods were learned primarily at home.

Norms among friends were important because participants tended to conform to the habits of their friends. One adolescent boy put it plainly by saying: "Friends and family. Family because they tell you that it is bad for you. And friends, well, to have fun when you eat with them, to enjoy, to have a good time." This illuminates the different types of social norms among family and friends, where families facilitate pedagogical and instructive experiences and friends facilitate recreational ones.

Still, the types of instruction that children received from their families did not always support long term health. The norm of sugar-sweetened beverage consumption offers a case in point: Most people drank a substantial amount, potentially even a majority, of their daily fluids from sugar-sweetened beverages. They distinguished between carbonated sugar-sweetened beverages which they considered to be artificial therefore unhealthy. They considered beverages sweetened with "natural" sugars (e.g., sweetened with cane sugar or fruit) to be healthy. This demonstrates that norms can conflict with people's values: While this delineation between artificial and natural foods and beverages can often be a useful heuristic, it can sometimes distort people's understanding of the healthfulness of other foods.

School and Community Dynamics

Many respondents shared positive attitudes about their nutrition and health education experiences in their communities and schools, as well as about government run social support that they received. Adults frequently expressed gratitude for the government social support that they received, ranging from school meal programs to food assistance to nutrition education programs. Moreover, people in rural communities with limited access to government services and presence expressed a strong desire to be able to access government health and nutrition programs. These programs are implemented through the State School Feeding Program (Programa estatal de alimentación escolar, PAE), which is in charge of contracting by the territorial entitites and provides services, including early childhood services, through the public education system. This indicates that there is demand for these programs and that many people feel that these programs substantially improve their lives.

Environmental

Structural Elements that Affect Diet and Body Image

Colombia's infrastructural, socio-economic, and regulatory environments contribute to nutritional social norms and to the country's double burden of malnutrition. While the country's infrastructural challenges create a barrier to long-term and universal improvements in nutrition, the country's socio-economic and regulatory contexts also play a large role in influencing nutritional patterns and trends in the long and short terms. The findings below draw from ten key informant interviews, as well as from existing literature that contextualize and validate the main findings from the interviews.

Infrastructural Factors Impede Long-Term Nutrition Improvements

Industrialized Agriculture Decreases Local Food Production

The agricultural and food sector in one of the pillars of Colombia's economy: in 2019, food processing accounted for about 33% of Colombia's manufacturing GDP. Moreover, it ranked third in the region for investment projects in the food and beverage sector. This sector is, therefore, an important part of the country's economic development, just as it has impacted the availability, affordability, and acceptability of food. The changes to the food landscape include increasing the economic viability of large-scale industrialized agriculture with a corollary decrease in the economic viability of family farming; lowered prices of ingredients used in processed foods; and the increased variety of processed food options available to individual consumers. This has contributed to significant changes in Colombia's food-scapes, and the availability and affordability of these foods has contributed to Colombia's rising rates of obesity, increasing in women at an average annual rate of 1.99% and in men at an average annual rate of 3.24% between 1997 and 2016. Moreover, while Colombia collects information about overweight and obesity, there is little information available on about the impact of these risk factors in terms of the burden of noncommunicable disease, Gil-Rojas et al. (2019) estimated that about 20.5 disability-adjusted life years exist per 1000 residents in the country. They estimated the prevalence of noncommunicable diseases represents a significant proportion of disability adjusted life years: hypertension at 31.6%, type 2 diabetes mellitus at 28%; cardiac ischemic disease at 14.6% and lower back pain at 11.2%. This suggests that noncommunicable diseases are related to mortality in Colombia and that there is a need for more interventions aimed at prevention and treatment.

Choice environment of stores increases salience of processed foods

In many towns and cities across Colombia, local merchants and small stores known as "miscelaneas", which translates to neighborhood stores sell a wide variety of products. These include fruits, vegetables, bread, eggs, and cheese can be found, in addition to carbonated sugar-sweetened beverages. This results in an environment where both nutrient dense and nutrient poor foods are accessible. This issue is compounded by insufficient access to potable drinking water, particularly in rural areas, where the World Bank reports that only about 40% of residents use safely managed drinking water compared to 80% of people in urban areas. This results in processed foods and beverages obtaining increased importance, or salience, because their quality is standard.

Limited Transportation Infrastructure Impacts Ability to Transport Perishable Foods

Several participants estimated that Colombia produces enough food for the entire population, but it cannot be distributed effectively due to insufficient transportation infrastructure. There are structural problems such as a deficient road network that make farmers lose their crops because they can't bring them to market. There is also a lack of roads that increase costs to reach big cities or to transport foods or tools. There are also many intermediaries between the farmer and the table. This contributes to the high cost of foods, which constitutes a barrier for many people in both urban and rural areas to consistently access nutrient-dense foods.

Conflict Can Hinder Service Provision and Require Programs to Adapt to Local Needs

The country's history and ongoing areas conflict can contribute to instability in health programming efforts, particularly in impacted areas (for discussion on the regions affected by armed conflict, please see the monograph Regions and Armed Conflict by the National Center for Historical Memory Centro published in 2018). In 2020, the UN Office for the Coordination of Humanitarian Affairs estimated that about 5.1 million people, or about 1% of the country's total 49.6 million population, was in need of humanitarian assistance, including improved health-care delivery. In a study on barriers to health interventions to women, children, and adolescents in conflict settings, Singh et al (2020) reported in The Lancet that barriers impacting Colombia's provision of nutrition and reproductive health services in conflict impacted areas included low health workforce resourcing; health service delivery; security; service coordination; and community dynamics. These barriers can hinder people's ability to access resources and services. To address these types of barriers, the authors suggest that developing new modes of delivery and hiring and training other types of health workers, often from local communities, can facilitate strengthened and timely service provision.

Socio-economic Factors Impede Short and Long-Term Nutrition Improvements

High Prices of Food and Insufficient Access to Water Limit Access to Nutritious Foods

Colombia's high rates of food inflation create significant economic barriers to accessing nutritious food, particularly for people with low incomes. In April 2022, Colombia's food inflation rate reached 26.17%, an increase of 22.19% since April 2021. While the country implemented a series of price control measures to curb inflation, which resulted in about a 50% drop in food prices for stable foods like potatoes, the country continues to experience food inflation. The result is that people continue to pay high prices for staple foods like potatoes, rice, corn, and legumes, which are an important part of the base of many Colombians' diet. Moreover, many people in both urban and rural areas of Colombia have insufficient access to potable water , which contributes to the double burden of malnutrition: on the one hand, it contributes to diarrheal disease spread, which contributes to undernutrition, while on the other hand, it can drive people to seek alternative beverage sources, e.g., carbonated sugar-sweetened beverages, which contribute to overnutrition.

Cultural and Linguistic Marginalization Contribute to Poorer Health Outcomes

Both race-based and ethnicity-based discrimination impacts health outcomes in Colombia.It is important to note that this study was conducted with participants in the departments of Antioquia and Boyacá who did not come from Indigenous or Afro-descendent communities, but who nonetheless experienced financial scarcity and Internet access. However, it is important to call attention to the fact that race-based and ethnicity-based discrimination are predictive of educational attainment, occupational status, and household income, as they are also a predictive factor of psychosocial health. In Colombia, like in

many parts of Latin America, there is a social norm of "mestizaje", in which many people consider themselves to be racially "mixed", just as there is a political celebration of Colombia's socio-cultural diversity and multiculturalism. Despite this, Black Colombians and Indigenous peoples experience discrimination in all areas of Colombian society.

This contributes to worse health outcomes for people in these communities due to the increased levels of poverty that is part of their lives and due to the lack of accountability of racist discrimination. This increases social exclusion and isolation, just as it creates significant barriers to social mobility. This can result in economic barriers to accessing nutritious foods and increased likelihood of experiencing food insecurity.   Moreover,, for Indigenous peoples whose primary spoken language is a language other than Spanish, there can be significant barriers to accessing public social services and healthcare.

Policy and Regulatory Factors Create Instability for Nutrition Programs

Changing Priorities and Messages in Short-Term Nutrition Policies Can Create Instability

Short-term health policies, implemented by presidential administrations, are a norm in Colombia. These contribute both to instability in the types of programs that exist and irregularity in the nutritional messages communicated with the public. This contributes to inconsistency in the types of programs that exist and the programs and policies that get funded. While the country has introduced some regulation aimed at preventing noncommunicable disease through, for instance, nutrition labelling, there are often barriers to implementing public policies One stakeholder shared, "In Colombia we have incredible public policies formulated on paper but there is a huge budgetary vacuum, and each government has its own interests and sponsors that play an important role in achieving its goals." This suggests that policies and programs can experience operational barriers, e.g., around funding, that impact their implementation.

It is important to highlight the significant legislative achievements that the country has made in nutritional health. These achievements include Law 2120 in 2021 that guarantees the right to health and improves food environments with the objective of preventing noncommunicable diseases and improving access to optimal information. Moreover, Resolution 810 establishes technical requirements and regulation for nutritional and front of package labelling for packaged food, and it is (as of this writing) being updated by the National Government with new evidence. There are also numerous other programs led by the Colombian Institute for Family Wellbeing (ICBF), including tax reform to advance optimal nutrition and health across the country. Building on these achievements by updating regulatory frameworks provides a foundation for strengthening nutritional security and advancing optimal health: these areas include

the packaging and marketing food, such as ultra-processed food; the support to people living in rural areas, such as through the programs for family farming; and the ongoing updating of legislation for food security and nutritional health (e.g., CONPES 113 of 2008, pertaining to the national policy on food and nutritional security).

Summary:
Key Findings by
BDM Level

The findings show that people across Colombia experience significant financial stress: this was compounded by food inflation, which makes many staple foods like potatoes financially unaffordable. The data also showed that there were significant differences in the number of meals that people in urban and rural areas ate, with people in urban areas tending to eat fewer meals. Moreover, most people in the study said that they drank sugar-sweetened beverages throughout the day, often in place of water. The table below summarizes the main nutritional norms found in the study.

Factors	Key Findings	Description
Psychology		
Cognitive bias	The popularly held definition between "natural" and "artificial" foods contributes to many people considering "natural" sugar, e.g., from juice and cane sugar, to be nutritious.	This delineation between "natural" and "artificial" foods contributes to **salience bias**, where negative effects of consuming foods and diets rich in sugar appear less obvious because some sugars are considered natural and therefore healthy.
	Eating out at international restaurant chains often evoked positive memories of going out to eat and spending time with family.	This shows **nostalgia effect** because the positive and sentimental recollections of time with family can drive the decision to eat certain foods in the present.
	Eating out and buying foods at convenience stores often evoked positive emotions and feelings of social independence for adolescents.	This demonstrates a type of **affect bias** because the positive associations of independence through items that they can afford can drive adolescents' purchasing of ultra-processed foods at convenience stores.
Interests and attitudes	Balancing one's consumption of "artificial" foods with a wide variety of "natural" foods is considered important to achieving and maintaining health.	This demonstrates a health **attitude** that moderating one's consumption of "artificial" foods is important to health, although people's definitions of moderation varied.
Self-efficacy	People in urban areas often felt less capable of being able to afford and include a wide variety of fruits and vegetables in their diets than people in rural areas.	While this demonstrates a structural barrier to affording food, it also demonstrates a finding on **self-efficacy** because it reflects a lack of confidence that people in urban areas feel about their capacity to control their diets.
	Adults and adolescents in urban areas often described feeling less capable of changing their habits of drinking carbonated sugar-sweetened beverages.	This demonstrates a finding on **self-efficacy** because it reflects that a lack of confidence in the ability to change their health behaviors.
Intent	Participants shared that health is predicated on what a person eats and that it involves both physical and emotional wellbeing, rather than a particular body size.	This reflects that participants consider consuming nutritious foods and being emotionally well an **intention** of health.
	Participants considered affordability and quality, which participants defined as "wholeness" (e.g., rice grains being unbroken) were the most important factors in food purchase decision making.	This finding shows the **intention** to find a balance between affordability and quality were the desired outcomes of food decision purchases.
Sociology		
Social Influence	The habit of adults, adolescents, and older children consuming carbonated sugar-sweetened beverages around toddlers contributed to their curiosity and interest to try these beverages when they were toddlers or just past toddlerhood.	The habits of people around contribute to **social influence** by informing what children find interesting and enjoyable by driving their desire to conform with others.
	The conversations about health that people had with family members were the most important vectors of information impacting people's knowledge, attitudes, and practices around health.	The conversations with family members were a form of **social influence** both because this was an important place of socialization and education and because of children's desire to conform with family members.
Community Dynamic	Going out to eat was reserved for celebration and occasional recreation, based on financial resources, and in both urban and rural communities was associated with economic wellbeing and showing affection.	Most people talked about going out to eat as a sign of economic stability and to treat their families, which shows a **community dynamic** where eating out symbolizes economic stability and facilitates familial and social cohesion.
Gender Norms	Men in both urban and rural communities were more often the people who initiated and made the decision to go out to eat, and they often made these decisions to show affection to their families.	The greater initiative that men as opposed to women took to take their families out to eat indicates that there is a **gender norm** where men are the people who made the decision to eat out and spend money.
	Adolescent boys and adult men tended to say that they rarely participated in meal preparation and serving, or participated as a form of help, while women and adolescent girls considered it a responsibility.	The expectation of women and adolescent girls to participate in household labor and meal preparation indicates that there is a **gender norm** where women are considered responsible for household labor while men and adolescent boys are not.
Meta Norm	Thin bodies were considered healthier than larger bodies in both urban and rural communities.	While most people said that women in their communities had larger body sizes and men had a range of body sizes, most people considered thin bodies to be healthier than large bodies, which contributes to the **meta norm**, or belief, that thinness is demonstrative of health.
Environment		
Economic barrier	The high price of food limited most participants ability to buy more than their essential carbohydrate and protein rich foods and decreases their ability to afford a wide variety of produce.	The cost of food was an **economic barrier** that made purchasing large quantitates of food difficult for many people in the study.
Infrastructural barrier	The limited transportation infrastructure across the country impacts both small and large business' ability to transport perishable foods to rural and peri-urban areas.	The lack of transportation infrastructure like roads and bridges creates an **infrastructural barrier** for businesses to transport foods across the country and to reach communities that have limited road access.
	Insecurity and political conflict can hinder the government's ability to conduct health and nutrition programs in some parts of the country.	The insecurity and political conflict in some parts of the country creates an **infrastructural barrier** whereby public health programs cannot reach people in those parts of the country.
Governing entities	Short-term health policies, implemented by presidential administrations, contribute to program instability and the politicization of public health.	Short term policies contribute to programs instability, irregularities in the nutrition messages communicated to the public and inconsistencies in the types of programs that exist and the programs and policies that get funded.
Structural factors	The changes to the food landscape driven by the development of large-scale industrialized agriculture and globalization of processed foods has lowered prices of processed foods and increased the variety, availability, and affordability of them.	This change to the food landscape of Colombia is a structural driver of behavior because it creates a choice environment where both nutrient rich and nutrient low foods are accessible.

Table 13 Summary of Key Findings from Colombia study

Conclusion

This chapter documents the main norms and practices observed around nutrition and body image among the participants in the departments of Antioquia and Boyacá. The findings show that socio-economic factors, in particular high rates of food inflation, impact individual decision making around food consumption and contribute to normative behaviors and practices around nutrition and health.

At the individual level, behavioral factors influenced what and when people chose to eat. For example, salience bias, or the tendency to focus on prominent pieces of information to the exclusion of less prominent ones, impacted what people considered to be healthy. The popular rule of thumb that distinguished between "artificial" and "natural" foods contributed to many people considering foods rich in "natural" sugar, e.g., from fruit juices and cane sugar, to be nutritionally important parts of healthy diets and obscured the fact that both represent types of sugar. Moreover, people's emotions and memories also influenced what they chose to eat, such as when going out to eat. Going out to eat or eating certain foods often evoked positive memories and influenced people's desire to eat out or to eat certain foods in the present. This shows that nostalgia effect, or the influence of sentimental and positive memories, can influence what, how, and why people consume foods.

Most participants in Colombia experienced some level of food insecurity every day. In urban areas, many people ate two meals per day and purchased only essential items. In rural areas, most people ate three meals per day, but often struggled to afford staples like potatoes. In both areas, they tended to avoid eating snacks, which were given to young children, and they ate a wide variety of fruits and vegetables. They also drank a variety beverages sweetened with cane and fruit-based sugars, as well as with ultra-processed sugars in carbonated sugar-sweetened beverages. The beverages that they drank throughout the day included hot chocolate, panela water, and coffee in the morning and cold panela water, fruit and flower infused water, and juice and carbonated sugar-sweetened beverages. Few people said that they drank plain water regularly.

The descriptive norm of drinking sugar-sweetened beverages is driven by both environmental and sociological factors. Infrastructural factors like the high price of food and the insufficient access to potable water across the country, particularly in rural areas, means that many people seek alternatives to tap water by using filters to treat water at home and by buying bottled water and bottled sugar-sweetened beverages. Many people also viewed drinking carbonated sugar-sweetened beverages as a sign of economic wellbeing indicating that they were able to afford non-essential items. People in rural areas, more than in urban areas, viewed the beverages as a sign of a person's economic stability. These findings emphasize that socio-economic and environmental factors drive the development of this norm in Colombia.

Most people, however, considered carbonated sugar-sweetened beverages to be unhealthy and made clear distinctions between "natural" and "artificial" foods and beverages. They considered natural foods to be healthy and artificial foods to be unhealthy. They also did not focus on sugar consumption as indicative of nutritional quality, but rather focused on whether they were consuming "natural" or "artificial" sugar. For this reason, most people considered juice and cane sugar to be healthy, and they added it frequently to their beverages. While this metric was often useful, it can skew their perception about the healthfulness of sugar-sweetened beverages, such as juice and panela water. This demonstrates that discursive delineations, e.g., between natural and artificial, can constitute social norms that impact decision making.

Gender norms in people's environments were also driven by factors of social influence people's environments. While most people described household labor as the responsibility of women, food serving in urban households was considered a family activity. Moreover, most men and adolescent boys referred to their participation as help rather than as their responsibility. This discursive formulation both drives

and underscores this norm: it reinforces the belief that household labor is women's responsibility and that it is men's optional activity. Some fathers said that they participated in meal preparation when they were unemployed to support their households and wives. This finding further underscores the strength of this gender norm, insofar that it demonstrates that economic exigency compelled them to participate. This suggests that emphasizing the economic importance of men's participation as a household responsibility while also making visible the social roles of women and the ways in which social roles in the food system assigned on the basis of gender could help to increase participation and decrease stigma around household labor as "women's" work.

Body size findings were also driven by social factors in people's environments. The findings show that most people who participated in the study considered thin bodies to be healthy and that there were significant differences in the body sizes of men and women. Men had a range of sizes that they observed in their communities, while most people said that women's bodies tended to be larger in their communities. This descriptive norm was driven by people's conception of health, which they described as being determined by exercise and "healthy eating", as well as by rest. The significant difference in men and women's weight is likely driven by gendered differences in labor and expectations around it, such as by the types of employment in which men and women are engaged; the amount of exercise that is part of their daily lives; and the amount of rest that they get. These factors contribute to stress and to the development of overweight and likely contributes, at least in part, to this difference.

Structural factors in people's environments also impact nutrition norms and health outcomes. Infrastructural, socio-economic, and regulatory factors create health precarity—vulnerability—for many people in Colombia, and these social determinants impact people's health in inequitable ways. The infrastructural factors in Colombia include decreased local food production, limited transportation infrastructure, and insecurity, and the prevalence of pre-packaged and ultra-processed foods. At the socio-economic level, these included food inflation and the cost of water, cultural and linguistic marginalization that creates barriers to accessing health, social, and public services. Moreover, the implementation of short-term health policies that are contingent on the support of individual presential administration politicizes public health, leads to inconsistent messaging and policy, as well as creates barriers to developing and implementing stable, long-term policies.

This chapter has aimed to consider norms and practices from the perspectives of the participants in the study who were mostly from the department of Antioquia with some from Boyacá; they were from majority non-Indigenous or Afro-descendent communities, and who were experiencing financial scarcity but who could access the Internet. The study centers on the experiences and voices of participants in focus group discussions. As the focus of the study is broad, the approach of looking at the psychological, social, and environmental factors aims to contextualize the findings. This approach emphasizes that there are numerous factors that lead to this population health outcome and that there are also numerous viable opportunities for promoting health in and with communities across Colombia.

Guatemala:
Main Findings

Geographic Context

Participants from Guatemala lived in the departments of Guatemala and one participant was from Alta Verapaz (Cobán). The department of Guatemala, which is in south-central Guatemala and is home to Guatemala City. They lived across urban (city center and greater municipal) and rural (peri-urban and rural) parts of the department.

The findings below thus reflect the experiences of people from the study living in the department of Guatemala with access to the internet and experiencing financial vulnerability. The findings thus aim to represent the experiences of people in this sub-population, rather than represent the national population.

Eating Habits and Practices

Rural Communities

Number of meals

Almost all participants in rural areas of the department of Guatemala said that they had three meals per day and occasionally a snack. Breakfast usually consisted of carbohydrate and protein rich foods like unsweetened bread, tortilla, breakfast cereal, pancakes, beans, eggs, and sausage. Lunch and dinner consisted of similar types of carbohydrate and protein rich foods like pasta, rice, beans, sausage, meat (e.g., chicken, beef, or pork), soups, and salads. Snacks usually consisted of a variety of foods like fruits, bread, sugar-sweetened bread, chicharron (pork rind), corn chips, and occasionally a fruit smoothie or a sugar-sweetened beverage.

Most people drank coffee and atole with breakfast and coffee in the afternoon, as well as plain water and carbonated sugar-sweetened beverages throughout the day. Atole is a traditional Mesoamerican beverage made from oatmeal, corn or masa-flour, heated, and served with cinnamon, fruit, or sugar as a garnish. Most people in rural Guatemala said that they made it with Incaparina, which is a fortified plant-based drink that Institution of Nutrition of Central America and Panama (INCAP) developed in the 1960s to address chronic undernutrition. Carbonated sugar-sweetened beverages were a part of people's weekly and often daily routines, and they drank them as a snack, reward, and as a refreshment.

Typical variety of ingredients

Most people in rural areas of the department of Guatemala ate a wide variety of vegetables, fruits, proteins, and carbohydrates several times a week. Many people also said that they ate a wide variety of vegetables than fruits. Adolescents also specified that they ate vegetables about three or four times per week, because they sometimes found eating vegetables to be monotonous and uninteresting, although most adults said that they served or ate vegetables daily. These vegetables included cucumber, cabbage, avocado, chard, cauliflower, onions, and tomatoes as well as vegetables native to Guatemala like güisquil (chayote). The fruits that people ate included papaya, mango, apple, oranges, and bananas.

Many participants had to economize and prioritize buying carbohydrate and protein rich foods and limit the vegetables that they bought. Several adults said that the Covid-19 pandemic had impacted their family's economic status and that they bought fewer vegetables as a result. Moreover, many families said that they also rarely went out to eat at restaurants and few people said that they ate at food stands.

While few of the people in the study appeared to live on working farms, many grew fruits and herbs and raised hens at home. The fruits they grew included citrus, mango, avocado, and loquat, while the herbs included peppermint, cilantro, oregano, and epazote, also known as Mexican tea, which is used as an aromatic herb across Central America. Few people said that they grew vegetables at home, although several people also said that they raised hens for meat and for eggs.

Participants in rural and peri-urban areas of the department of Guatemala shared that they ate sugar-sweetened foods to fill cravings and that they drank carbonated sugar-sweetened beverages occasionally as a refreshment during the day or with guests. Adults often said that they tried to limit eating processed foods and consume them sparingly, and adults in rural and peri-urban areas did not appear to regularly eat snacks. Instead, they reserved snacks for young children, who they said ate fresh fruits, bread, crepes, and fried plantains for snacks.

Ingredient selection

Proximity and affordability were the main qualities that people in rural and peri-urban areas of the department of Guatemala prioritized in their food purchases. Practically no participants explicitly said that freshness was a quality that they sought, which either indicates that it was present or simply not their main priority. Rather, they often purchased vegetables, fruits, and meat at their local market. These markets were usually located within a 1-to-3-kilometer radius of their home, and they frequented them weekly or every other week. Most people purchased carbohydrate rich foods like rice, pasta, and beans in bulk from nearby supermarkets that sold items on discount. One father, for example, said, "we buy vegetables, meats, and groceries at the cantonal market near where we live because it seems to us that it is cheaper and more accessible, because it is closer to us." This market was within walking distance, which economized on both time and money. Many other people said that they similarly bought most of their perishable foods at markets within walking distance.

Supermarkets were typically located further away, so many people went irregularly and bought items in bulk. For example, one adolescent girl said that her family bought items at the nearest supermarket every two months and that they bought most of their food from cantonal markets. Most people said that they went to the supermarket about once or twice a month and bought produce from local cantonal markets, to which they said that they either took a car or could occasionally walk.

Ingredient selection, as well as household labor in general, were typically seen as women's work and adolescent girls were also expected and taught how to do this work. Many men described their role as that of the primary household earner, and the norm in most families was that men managed the household finances, i.e., they approved purchases, while women were expected to calculate and identify the most economical food purchases. One man, for example, described this gender norm:

> *We are the family's ATM; we have to work to pay our daily sustenance. Our wives make hard efforts to maintain to keep the budget and do more with less. I think that the biggest role we play is to work to be able to pay the food, to help our wives to do the shopping. Here in Guatemala, it is very common to negotiate discounts when we buy. I learned that from my mother, and I explain to my wife how to do it.*

This quotation shows that the gender norm in this family, as was also described by several other people, is that men are the people who control the household finances and are considered the main earners. Most women, however, also worked full time, often in care work like housecleaning, and many said that they would like for men and adolescent boys to participate in the responsibilities of managing a household. Moreover, demonstrating the strength of this gendered norm, when adolescent boys were asked whether they helped their mothers to purchase food, many of them shared negative views about this and relief that they did not need to purchase food for the house. This shows that they do not consider it to be part of their responsibilities and that they consider household labor to be women's work.

Meal preparation and serving

In rural parts of Guatemala, nearly all participants said that meal preparation was women's work, but that men occasionally participated in meal serving. This norm appeared to be prevalent among the adolescent boys in the study, as several expressed aversions and a lack of interest in learning how to cook. One adolescent boy, for instance, said that he prepared eggs only when there was no one else to make them. However, some of the fathers said that their sons not only knew how to cook, but that they also enjoyed cooking. This indicates that while meal preparation may be seen primarily as women's work, there

are a range of attitudes about this. Moreover, when men described their role in meal preparation, they typically described their role as that of helping their wives, or as that of an assistant. This underscores the strength of the norm because it shows that men see their role as auxiliary rather than primary.

Adolescent and young girls, however, were typically expected to participate in meal preparing and serving. One father said that his daughters participated in cooking and serving food. Another father said that he and his wife were teaching their children how to do household chores like making their beds and doing laundry, but that they had not yet taught their daughter how to cook. This indicates that parents consider teaching their daughters how to cook to be an important life skill. They did not describe teaching their sons similar skills. This also underscores the strength of this gender norm because it indicates that many people do not think it is necessary for boys to learn how to cook, as there will likely be someone else to do it for them.

Eating out

Participants described a range of frequencies of eating out. Many people said that they ate out infrequently, about once a month, and that when they did, it was at international restaurant chains, where they bought foods like pizza, tacos, fried chicken, and hamburgers, and shuco, which is a type of Guatemalan hot dog that is served with avocado, cabbage, sausage or meat, sauce, and mayonnaise. Many people said that they ate out at restaurants primarily for family celebrations like birthdays, demonstrating that the descriptive norm in many families is to go out to eat for celebrations. This also demonstrates that the practice in most families is to eat out infrequently and that people eat out as a treat for celebrations. Many adolescents considered buying candies and chocolates at local stores to be a form of eating out. This further demonstrates the prevalence of the practice that people eat out as a treat, and it suggests that there is likely a social norm around eating out with family, namely that eating out is an activity that is typically and should be done as a form of celebration.

Snacks and treats

Most people ate a snack in the mid-morning or mid-afternoon, and their snacks differed depending on their age. Most adolescents said that they ate sugar-sweetened or sodium and fat rich foods like sweet bread, cupcakes, and chips as snacks to fill cravings a few times a week. When they ate processed foods like cake for snacks, they emphasized its infrequency. This indicates that adult snacking is not considered a norm among many people in rural parks of Guatemala and that when people eat these types of foods, they consider it to be a treat. Many adults expressed concern about their health or about the risk of becoming ill if they ate many processed foods. They also said that they served foods like fried plantains, yogurt, beans, and raw fruit as a snack to young children.

Beverages

Beverages were the main source of processed sugar in most households in rural Guatemala, and many were carbonated sugar-sweetened beverages. Breakfast beverages included drinks like atole, coffee, and plain water, and few people said that they drank juice or water flavored with fruits and aromatics like hibiscus or tamarind daily. However, many people, and especially adolescents, drank carbonated sugar-sweetened beverages throughout the day and with lunch and dinner. One father observed that this practice of drinking carbonated sugar-sweetened beverages was prevalent because these types of beverages were often less expensive than buying bottled water. He said, "You pay $2 or 2.5 Quetzales for a soda and $3 for a bottle of water." Further demonstrating the ubiquity of the practice of drinking carbonated sugar-sweetened beverages, numerous participants referred to carbonated sugar-sweetened drinks as "waters" and some referred to "red waters" ("agua roja"), which was a generic way to describe a brand of carbonated sugar-sweetened beverage.

The health implication of consuming carbonated sugar-sweetened beverages was a topic about which many parents expressed a lot of concern and anxiety. Participants were very concerned about developing diabetes, which many people had seen progress in their families and communities. One mother, for example, said that whenever her daughter was sick, "she immediately has a diabetes test". Another mother said that her family tries to limit the amount of sugar that they consume and to consume only cane sugar. They considered this to be more natural because they wanted to prevent diabetes. This shows that while drinking carbonated sugar-sweetened beverages is a descriptive norm, there is a parallel concern about associated health implications, which most people ascribed to diabetes.

There are also several remedial ways that people in rural communities not only used carbonated sugar-sweetened beverages to alleviate the symptoms of fatigue or illness. People drank carbonated sugar-sweetened beverages to alleviate headache, low blood pressure, and sore throat. They also said that many people boiled carbonated sugar-sweetened beverages into a syrup with cinnamon and ginger, and that this was given to children recovering from colds. Moreover, two parents said that they were recommended by people in their community that their child drink a carbonated sugar-sweetened beverage when they had chickenpox. They were told that this would cause the varicella virus to "sprout" more quickly. This demonstrates both that drinking carbonated sugar-sweetened beverages is a descriptive norm, both as an accompaniment with meals, as well as a treatment for common ailments and infections.

Urban Communities

Number of meals

Nearly all participants said that they had three meals per day, as did their children, as well as either a mid-morning or a mid-afternoon snack. Breakfast typically included carbohydrate rich and protein rich foods like breakfast cereal, pancakes, eggs, beans, rice, cheese, and tamales. Tamales are a traditional Mesoamerican dish made from masa dough that has been stuffed with any variety of meat, cheese, vegetables, and herbs, wrapped in a corn husk or banana leaf and steamed. Lunch typically included protein and carbohydrate rich foods like beans, rice, and chicken and on special occasions could include traditional Guatemalan dishes like jocón, which is dish made of chicken in a tomatillo-based chili sauce with rice, or broth-based soups. Dinners typically included foods like those served at lunch, as well as some included vegetables and salads. The snacks that people, in particular adolescents, described consisted mostly of carbohydrate rich and sugar-sweetened processed foods, such as cookies, cupcakes, and other sugar-sweetened breads.

Most people shared that they mostly drank plain water, coffee, juice, or sugar-sweetened fruit-flavored water throughout the day or atole, they made with Incaparina.

Typical variety of ingredients

Most people in urban areas ate a wide variety of fruits and vegetables, which were often served in salads and with a protein or carbohydrate. Typical vegetables included tomatoes, onions, potatoes, lettuce, zucchini, cucumber, corn, and leafy greens like spinach and chard, as well as vegetables indigenous to Guatemala. These included güisquil (chayote), quilites (from Nahuatl meaning edible plant or weed, usually leafy greens and herbs) , and güicoyes (a squash varietal resembling zucchini), amaranth, and bitter melon. The fruits that people ate included a variety of tropical fruits, including mango, papaya, banana, pineapple, orange, and melon.

While many participants described experiencing economic constraints, these constraints did not appear to cause food insecurity or significantly limit the variety of fiber, protein, and carbohydrate rich foods

that they ate. For those who had to change their diets due to economic constraints, they tended to include more carbohydrate rich foods and limit protein rich foods. One adolescent girl shared that her family ate more carbohydrate rich foods like pasta and limited the amount of protein rich foods that they ate like beans. Several other people said that they went out to eat less often and made food at home.

Moreover, to increase their food economy, some people tended small vegetable and herb gardens, which they grew in pots or in bags. These foods included herbs like cilantro, thyme, and mint, as well as vegetables, especially climbers, like tomatoes and peppers. They also occasionally raised hens for eggs and meat. This shows that there may be a practice among some urban families of growing vegetables and herbs, and of raising chickens.

Processed foods and sugar-sweetened foods and beverages were typically consumed as a snack or for a special occasion, such as when guests were visiting or when they were eating out. For example, when people ate out, they typically described eating foods like pizza and hamburgers. Their snacks, typically eaten in the mid-morning or mid-afternoon, often consisted of sugar-sweetened breads that were usually purchased but sometimes homemade. Moreover, they said that purchasing sweets and snacks saved them time, as the sugar-sweetened foods (e.g., cake, cupcakes, muffins) that they ate typically require time to make. This shows that processed foods and sugar-sweetened foods and beverages were often eaten as a convenience because it helped to save time in people's schedules or while they were busy.

Ingredient selection

Affordability, variety, freshness, were the three most important qualities that participants in urban areas described in their food purchases. While affordability was the most salient, they rarely needed to forgo freshness or variety because they were able to buy fruits and vegetables at small local markets for affordable prices. Many people expressed that they could not "afford to waste", so they purchased fresh produce and meat every day at local markets and bought staple ingredients like beans, pasta, rice, and Incaparina at their supermarkets. Moreover, many people found numerous ways to be economical with food, such as by freezing vegetables, fruits, and meat, as well as by identifying a list of essential items to buy at a nearby supermarket.

Few people referenced proximity as a specific quality that they sought because most people lived near produce markets and butchers, as well as near supermarkets. Their local markets were typically within a 3-block radius of their home, or about a 5-minute walk. This meant that going to the market was both easy, and it did not require much time or planning. Conversely, while supermarkets were sometimes located within walking distance, they often required people to reach them by car or public transportation. Most people said that they went to the supermarket as irregularly as possible and usually about every two weeks, because they were able to buy enough essentials to last them up to two weeks.

There were two gender norms that emerged from the discussions: household labor, including meal preparation and childcare, was seen as a woman's responsibility, and money management was seen as a man's responsibility. Among parents with young children, men were the ones who often purchased food, while among families with older children, women were the ones who were responsible for food purchases. Sometimes, parents of young children went to the supermarket together. For example, one father said, "I ask my mom to watch the kid and we go quickly to the market because my wife is the one who knows about prices, and I am the one with the money". This shows that while household and meal preparation is typically women's responsibility, men contribute when it is necessary, such as when women are minding young children. This underscores the gendered aspect of this norm and of the norm that childcare is a woman's responsibility because men described their participation as help rather than as their responsibility. Moreover, the man's statement that he is responsible for holding money, rather than knowing about prices, demonstrates the gender norm that men the heads of households who control the finances.

Meal preparation and serving

In urban parts of Guatemala, most participants said that meal preparation and serving were women's responsibilities and an important part of girls' household education. Adolescent girls were expected to contribute to meal preparation, and most adolescent girls said that they contributed to meal preparation in some way, such as by washing, chopping, or cooking fruits, vegetables, eggs, cooking other proteins or by preparing the table for family meals. Several adolescent girls said that they were interested in learning how to cook and that they were responsible for cooking foods like rice and pasta "because it's a little easier." While several expressed that they did not know how to cook a wide variety of meals, their participation was an important part of meal preparation, and it also was an important aspect of their learning how to make meals.

Men and adolescent boys were not typically expected to contribute to meal preparation or serving, although they contributed when women were busy. This demonstrates the gender norm that meal planning, preparation, and serving is seen as women's work. Furthermore, their statements about their participation as help to women underscores the strength of the norm because it shows that they see their participation as help rather than as responsibility.

A related norm that emerged from conversations was the importance of extended family in food preparation. In many conversations, participants said that their parents were caretakers of their children, indicating that they either lived together in the same household or nearby. They shared that mothers were typically the people responsible for preparing dinner and main family meals, but that grandparents and especially grandmothers were often responsible for taking care of children and preparing breakfast, lunch, and snacks throughout the day.

Eating out

Most families said that they ate out at restaurants, international food chains, and food stands once or twice a month. Those who said that they were experiencing worsened economic constraints said that they cut back on eating out to save money. This demonstrates that eating out is considered a non-essential expense and that it is among the first food related activities that they exclude from their family habits and rituals when experiencing financial scarcity.

Most participants shared that they enjoyed the variety and recreation that eating out at restaurants and international food chains provided. They typically ate at these restaurants with their families on Saturday or Sunday, which demonstrates that eating at restaurants is a family ritual reserved for weekends. Most of the foods that they described eating were international European and American foods like pizza and hamburgers or from international restaurant chains. Likewise, several people said that they enjoyed eating Mexican style foods like tacos when they went out. This shows that the variety and recreation are important aspirational qualities of eating out at these types of food establishments because they enable people to both participate in an international economy and to experience international foods.

Conversely to eating at restaurants, participants ate at food stands frequently. They described this experience as an everyday ritual of their lives that was both enjoyable and convenient. One adolescent girl, for example, said that she and her mother purchased foods like shucos, a type of Guatemalan hotdog that is served with avocado, cabbage, sausage or meat, sauce and mayonnaise, at street stands when they went shopping together for groceries. Adult men said that they tended to buy street food when alone, and there was limited information from adolescent boys on where and how they purchased food at food stalls.

Snacks and treats

Most adolescents said that they ate a snack during the day, either in the mid-morning or the mid-afternoon, and that their snacks typically were typically carbohydrate rich and either fried or sugar-sweetened foods. For example, one adolescent girl said that she typically eats bread with coffee or a homemade crepe. Another girl said that she and her brother eat popcorn, crepes, or pancakes unless she buys snacks like potato or corn chips. Conversely, adults were less likely to say that they ate snacks throughout the day and that they mostly ate snacks of fruit and protein-rich foods when hungry, rather than as a habit or for pleasure.

When adolescents described eating snacks, they often described them as filling cravings, which they filled with friend or sugar-sweetened foods. Likewise, many adolescents said that they had cravings for specific brands of foods that included international brands of cupcakes, chocolate-filled rolls, and brands of chips. This demonstrates that there is a descriptive norm among adolescents to eat processed and ultra-processed foods as snacks and that many adolescents eat snack foods as a source of pleasure rather than to primarily satiate hunger.

Beverages

Beverages were the main source of processed sugar that people consumed in urban households throughout the day. Most of the sugar-sweetened beverages were from juice, atolé, and sugar-sweetened flavored water rather than carbonated sugar-sweetened beverages. Most people said that they drank plain water to quench thirst, but that drinks other than water were served with meals. These beverages included coffee or milk at breakfast, juice or flavored water, such as from tamarind or hibiscus, at lunch, and flavored water or atolé with dinner.

Most people shared health-neutral associations with the drinks that they consumed daily, although they considered carbonated sugar-sweetened beverages to be less healthy. They considered flavored juice made from powder to be analogous to fruit-based juices, which they considered to be healthy. Moreover, when people described drinking carbonated sugar-sweetened beverages, as a treat or on special occasions, such as when entertaining guests. One adolescent boy said that his family offered carbonated sugar-sweetened beverages, rather than flavored water, because serving these beverages required much no time to prepare. This shows that serving carbonated sugar sweetened beverages is a practice of convenience.

Some people also drank carbonated sugar-sweetened beverages after or while doing work. For example, one father said that he and his family had carbonated sugar-sweetened beverages twice a week when they went out to the market or to run errands. This shows that it is a part of their family ritual of running errands and spending time together and that it is consumed as a reward for labor. However, both adults and adolescents said that they were aware that carbonated sugar-sweetened beverages could negatively impact their health. One adolescent, for example, said that "they cause diabetes, harm your teeth, and kidneys and cause infections in the urinary tract." Many other adults and adolescents shared similar knowledge about the impact of carbonated sugar-sweetened beverages. Several men said that they had diabetes and that they avoided drinking carbonated sugar-sweetened beverages in general. Another adolescent said that he worries that carbonated sugar sweetened beverages could make him sick. He said:

> " [W]hen I go to the bathroom I see that my urine is yellow, that's when I start to worry and what I do at that moment is to drink more water and stop drinking soda for a while. "

This quote shows that while he realizes that carbonated sugar sweetened beverages could contribute to becoming sick, the personal experience of negative health outcomes is something that he considers avoidable and not salient.

This low level of salience is intensified by the practices of drinking carbonated sugar-sweetened for remedial purposes, particularly for people living with diabetes. The adolescent boy said that his brother-in-law, who lives with diabetes, drinks carbonated sugar-sweetened beverages when his blood sugar low. Similarly, other adolescents and adults said that they saw family members living with diabetes drink carbonated sugar sweetened beverages or suck on a hard candy if their blood sugar was low. This shows that while carbonated sugar sweetened beverages are generally considered to be unhealthy, they are also used in remedial ways by people whose health can be put at risk by consuming these types of beverages.

Most adults and adolescents considered carbonated sugar sweetened beverages to be appropriate beverages for children older than at least five years and inappropriate for young children. Coffee, however, was considered an acceptable beverage for young children. One father shared that in Guatemala giving children around the age of 3 years old a coffee with breakfast was considered normal. He said:

> 66 *Sometimes [my child] eats cereal or the usual, scrambled eggs and sausage, and coffee and atole... It is the custom here in Guatemala, because as I said, sometimes you on the run. Grand-mothers are the ones who make them get used to it, here there is always coffeee.* 99

This quote illustrates a descriptive norm that coffee is considered a normal beverage for young children who learn to enjoy drinking coffee as they grow up. Several adolescents said that they loved drinking coffee and that it was something that they drank in the morning and often in the evening. This shows that coffee-based drinks are considered an essential part of Guatemalan daily life and identity and, therefore, an important daily ritual in which to include young children.

Psychological

Behavioral Characteristics Influencing Eating and Physical Activity

Knowledge and Interests about Nutrition and Healthy Eating

Adolescents, aged 14-16

Nutrition was a salient topic for adolescent girls and boys, particularly those from urban areas, many of whom had seen family members live with diabetes and other noncommunicable diseases. Many adolescents had also encountered public health programming at school and online about the importance of eating nutritious foods and limiting their consumption of processed foods and beverages. They were able to describe how sugar can impact a person's health, as well as why they should eat fruits and vegetables.

Conversely, adolescents in rural areas expressed less knowledge about nutrition and the ways that processed foods contribute to health. Their knowledge tended to be centered on importance of moderation and eating a variety of foods, and they enjoyed eating a variety of processed foods and beverages that they bought at stores, and likely also food vendors, in their communities. This demonstrates that there is a difference in nutritional knowledge between adolescents living in rural and urban areas.

Parents of children aged 0-5

Parents of children aged 0-5 years old focused on feeding their children a variety of foods and that they encouraged them to enjoy many types of food. Many parents in urban and rural areas said that their children were picky eaters and that they had to find creative ways to encourage them to eat.

A nutritional norm for many young children included drinking caffeinated beverages like coffee and carbonated sugar-sweetened beverages with caffeine. Several parents shared that this drinking coffee was considered normal for young children to consume. While drinking carbonated sugar-sweetened beverages with caffeine was something that many young children did, many parents expressed concern and feelings of guilt or shame about allowing their children to have this. This indicates that while this is a social norm in Guatemala, there are a range of attitudes about this and that many parents feel disempowered to change this norm..

Parents of children aged 6-19

Most parents from both urban and rural areas were concerned when their children eating processed and fried foods, which they described as "junk", and they said that they discussed nutrition and moderation with their children. This demonstrates a shift from the norm with younger children, namely about the variety of foods eaten, toward focusing on the nutritional quality of foods that children eat. While several parents in urban areas, said that their children were very health conscious, this was less often the case in rural areas, where nutrition appeared to be less salient for adolescents. This indicates that there is not only a knowledge and salience gap between adolescents in urban and rural areas, but also that parents may tend to have these conversations about nutrition after their children have begun to habitually eat these foods rather than before they start eating them.

Attitudes and perceptions about the meaning of health and good nutrition

Adolescents, aged 14-16

Adolescents' conception of health and good nutrition differed by geographic location rather than by gender. Adolescents in urban areas shared concrete ideations about what health did and did not entail, such as about the impact of consuming carbonated sugar-sweetened beverages, and they also expressed concern about the implications of consuming processed foods—and beverages in particular—on a regular basis. Conversely, while adolescents in rural areas also shared that health was a value, they had few concrete ideations about how to achieve it or what it entailed. For this reason, they tended to undervalue the impact of consuming carbonated sugar-sweetened beverages regularly.

Parents of children aged 0-5

Parents of young children considered health to begin at home, and they considered it important to teach their children good habits of eating vegetables, fruits, and a wide variety fiber and protein rich foods. Parents in urban areas also shared that they felt it was important to teach their children nutrition sot that they would avoid some of their own life experiences, such as developing overweight or seeing a parent live with diabetes. Conversely, parents in rural areas tended to emphasize the importance of moderation and balance, rather than omitting or limiting sugar-sweetened foods. They also expressed that they considered it important for their children to drink "plenty" of of "plain water", but that these were aspects of moderation rather than abstention. This signals that there is a salience gap between attitudes among urban and rural parents. It shows that urban parents are actively concerned with the prevention of noncommunicable diseases in their children and protecting their children from disease. Parents in rural areas also care about health, but they felt that this could be achieved through moderation and the inclusion of fruits, vegetables, and plain water rather than the exclusion of sugar-sweetened foods and beverages.

Parents of children aged 6-19

Parents of older children also expressed much concern about their children becoming ill from eating processed foods and beverages, both in urban and rural areas. Parents in urban areas tended to feel that they had more tools and resources at their disposal, as well as felt that they had greater capability and opportunity to impact their health outcomes and those of their children. Several men, for example, expressed relief and gratitude to their wives for emphasizing the importance of health in their households and for cooking healthful meals. Moreover, parents in rural areas emphasized the importance of eating vegetables and fruits into their diets rather than omitting carbonated sugar-sweetened beverages.

Perceptions about Body Image

To ensure the socioemotional well-being of FGDs participants, to collect sensitive information individually, and in adherence to the guidelines established for the ethical considerations of this research, a personalized survey was conducted to gather the perceptions of parents and adolescents regarding body image. Please note that this is not a representative sample of the entire population of Guatemala, so statistics have been omitted. Rather, it reflects how participants view body image, and it can inform insights about larger trends.

To identify some of the ideas and perceptions of body images of men and women, participants reflected on the following scale:

Figure 5 Stunkard Figure Rating Scale (from Stunkard et al. 1983)

Perception of a healthy body of men

Men body types:
Perception of a healthy body vs representation in the community

■ Represents a healthy body ■ Represents body types in the community
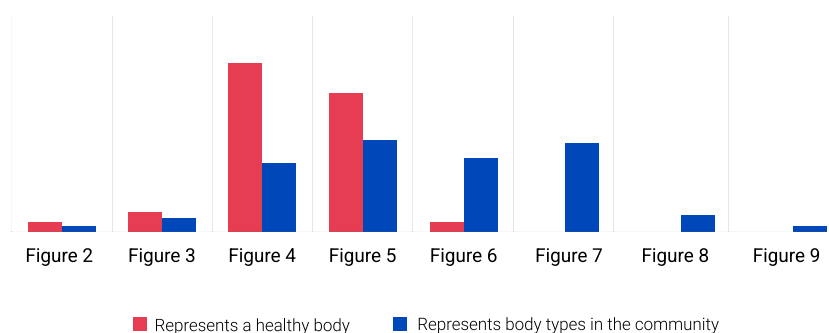
Table 14 Perception of Healthy Body Type vs. Representation of Body Type in Men

When asked what a healthy man body looks like, most responders chose figures 4, 5 and 6, while when asking how men look in their communities, respondents recognized a broader range of body types and some presence of obesity and overweight in their surroundings, from figures 2 to 9.

Perception of a healthy body of women

Women body types:
Perception of a healthy body vs representation in the community

■ Represents a healthy body   ■ Represents body types in the community
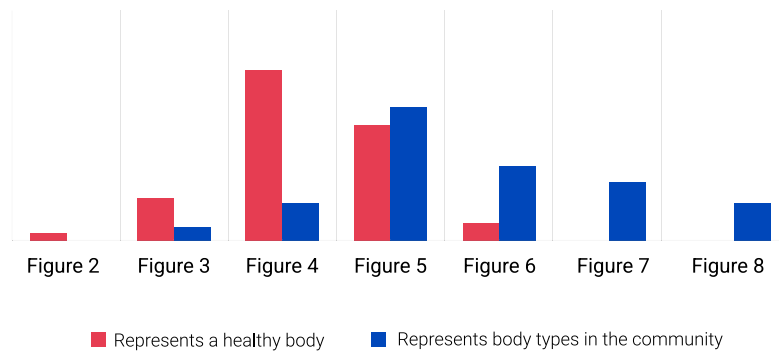
Table 15 Perception of Healthy Body Type vs. Representation of Body Type in Women

When participants were asked what a healthy woman body looks like, most considered figure 4 to be more representative. However, when asked how women look in their communities, responses ranged from figures 3 to 8, recognizing a broader range of body types and some presence of obesity and over-weight in their surroundings but slightly lower than the perception for men body types.

Perception of a healthy body of men and women

■ Some differences   ■ No differences
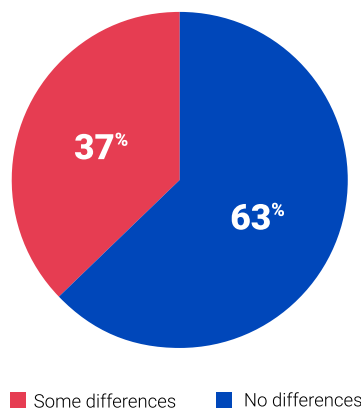
Table 16 Perceived Gender Differences in Presence of Overweight and Obesity in Community in Guatemala

This graph shows that most people do not perceive a difference in the rates of obesity and overweight among men and women. The type of body considered to be healthy was mostly figure 4 both men and women with a slightly higher margin for men; and most participants considered that there are no differ-ences between bodies. A minority of Colombian participants mentioned that there are some different body types for men and women, some variances in body types according to gender, emphasizing differ-ences in shapes and body mass, weight, and height, where men tend to have a larger body.

When participants were asked about ways to have and maintain a healthy body, the suggestions they know that were mentioned the most were:

- Having a healthy and balanced diet and eating healthy (with a clear reference to fruits and, and the importance of avoiding processed foods and fats).

- Having the habit of drinking water.

- Exercising and physical activities.

- Taking care of the emotional wellbeing.

- Education around nutrition.

- Resting and having a healthy lifestyle in general.

The following word cloud visualization displays the most common words used when describing healthy behaviors: "water", "diet", "healthy food", "balanced eating", "exercising", "vegetables", "habits", "fats", "junk food", "sleeping", and "eating healthy".

Table 17 Word Map Representing Words Commonly Used to Define «Healthy» in Guatemala

The conception that people have about constitutes a healthy body and health in general is likely informed and influenced by the messages that they receive from people around them, as well as from the messages circulating in their broader social networks. In the focus group discussions, many people said that they considered "health" to be related to a "balanced" diet and that they could identify health in people through physical characteristics, such as their level of energy and muscle tone. While the focus group discussions did not ask people to discuss body size and community norms in the group, the findings here suggest that many people consider thinness to be as sign of health and that this differs greatly from the norms in their communities. While the study did not investigate self-concept, this suggests that people may feel a pressure to be thin and likewise may feel dissatisfaction with their own bodies.

Sociological

Social and Cultural Factors Influencing Diet and Body Image

Families, Friends, and Social Influence

Most participants in the study were influenced by their families, both in terms of norms that contributed to nutrition and norms that were less healthful. In urban areas, families regularly discussed health and how to maintain it with their children. They felt that this was important because family was one of the primarily and only ways that children learned about nutrition: many parents expressed frustration that the media and policy environment of Guatemala had few regulations for processed food corporations. When asked, no participant said that they had encountered nutritional social messaging from the government. Rather, adults tended to say that they learned about health and nutrition through their personal experiences of seeing people's health deteriorate, while adolescents, particularly those in urban areas, tended to say that they learned about health from their parents, family, and social media networks like TikTok. This demonstrates that family and social media have a large role in promoting health in an environment with few regulations or advice for citizens.

School and Community Dynamics

In both urban and rural areas, participants felt that the lack of regulation or nutrition policies created an environment where nutritional education was the responsibility of the individual, rather than the state. For example, many parents and adolescents said that teachers sometimes discussed nutrition, but they did so of the own volition. This is problematic because it means that there is little oversight of the information conveyed and its validity. This is particularly pertinent given that several people, as discussed above, said that they received recommendations from healthcare providers to feed their children carbonated sugar-sweetened beverages to treat chickenpox. Because of this precarious communication ecosystem, nearly all participants expressed that they wanted regulation and health policy measures to be developed and implemented, as well as that they wanted the government to implement standardized nutritional health programming.

Environmental

Structural Elements that Affect Diet and Body Image

Guatemala's infrastructural, socio-economic, and regulatory environments contribute to nutritional social norms and to the country's double burden of malnutrition. While the country's infrastructural challenges create barriers to improvements in nutrition, the country's socio-economic and regulatory contexts also play a large role in influencing nutritional patterns and trends in the long and short terms. The findings below draw from key informant interviews in the country, as well as from existing literature that contextualize and validate the main findings from the interviews.

Infrastructural factors

Lack of access to water and sanitation influences diets and malnutrition is not reported at medical centers

Lack of access to potable water presents a substantial health and nutritional risk to many children in Guatemala: less than half of the population living in rural areas has access to clean drinking water. Moreover, 98% of the country's water sources are contaminated, and only 15 municipalities have operational water treatment systems that produce potable water. This presents a critical infrastructural barrier to achieving and maintaining population health in the short and long terms, and it is an important variable in the equation that produces the country's double burden of malnutrition. For one, lack of potable water contributes to the infectious disease morbidity, e.g., to the spread of pathogens that cause cholera and dysentery, as well as to diseases like cancer in the long term. For another, the lack of potable water contributes to chronic malnutrition, both in terms of stunting and to overweight.

Both acute and chronic diarrhea contribute to malnutrition because they limit dietary intake, cause fecal and nutrient loss, and interfere with the absorption of nutrients. The lack of access to potable water requires that people seek potable alternatives, which for many included carbonated sugar-sweetened beverages, which one study participant noted was less expensive than bottled water. As these beverages are typically made in hygiene-controlled factory settings, consumers are assured that they will not develop a diarrheal disease because of consumption. In the long term, however, carbonated sugar-sweetened beverages can contribute to the development of noncommunicable diseases like type 2 diabetes mellitus.

Moreover, it is important to note also that Guatemala's medical and mortality records system does not report whether a child, or indeed a person, suffered from malnutrition. Rather, they report the organ that failed, which provides a specific but not a holistic medical picture. This presents a challenge to systematically documenting and addressing burden of malnutrition across the country.

Land privatization impacts access to natural resources

The increasing corporate land privatization and the development of de jure land ownership models oppose traditional models of de facto communal ownership and limit access to natural resources. This presents a significant barrier to achieving population health because many of the country's population lives in rural areas and needs access to natural resources as part of their daily lives. Many people who are members of Indigenous communities speak Indigenous languages, for which the government has limited and of no resources, to effectively communicate with citizens from Indigenous communities.

Moreover, the privatization of traditionally communal land occurs in socially inequitable ways because there most banks are unwilling to extend formal credit to campesino landowners and there is a strong extra-legal land market. This contributes to a form of structural vulnerability for people, particularly Indigenous peoples, living in rural parts of Guatemala: the fact that many people in Guatemala are at risk of losing access to natural resources through their interaction, and indeed their marginalized social position, within normative cultural hierarchies creates a systemic form of socio-economic precarity that puts them at greater risk of negative health outcomes.

Migration to urban centers decreases local food production and agrobiodiversity

The privatization of land and the development of industrialized agriculture, particularly of oil palm growth and production , disenfranchises many people of their land and of access to natural resources. In so doing, it also contributes to increases migration to northern urban centers in the country. This contributes to a corollary decrease of local food production, namely to the decrease of traditional foodways like milpa farming. The development of industrialized agriculture and monoculture, e.g., of oil palm, also decreases agrobiodiversity.

While small scale farmers often receive little recognition for their work, their cultivation of hybrid crops contributes to agricultural diversity and global food security. Moreover, in the context of Mesoamerica, the privatization of land creates barriers to milpa farming, which is a traditional method of cultivating crops that include maize, beans, and squash over a two-year period and then allowing the area to lie fallow for eight years. The increase of privatization and industrialized monoculture, which typically focuses on intensive plant cultivation with little or no time for the field to lie fallow, not only puts milpa farming at risk, but also creates risks to the sustainability of Guatemala's biodiversity.

Socio-economic factors

Climate change increases risk of food insecurity

Guatemala's chronic malnutrition, the sixth highest in the world and the highest in Latin America and the Caribbean, is exacerbated by consecutive years of irregular rainfall. As about half of Guatemala's population lives in rural areas, this increases the risk of experiencing worsened food insecurity. The periods of drought followed by periods of intense rainfall damage crops and agricultural infrastructure, which leads to economic losses, the inability for laborers to work, and increased structural vulnerability. Furthermore, during the Covid-19 pandemic, many informal traders and agricultural day laborers experienced both chronic and acute food insecurity and were forced to use Crisis and Emergency coping strategies, such as selling their assets or using savings, to feed their households. The Integrated Food Security Phase Classification reported in June 2021 that at least one in five households uses a Crisis and Emergency coping strategy to feed themselves and their families regularly.

Cultural and linguistic marginalization

The primary language in many Guatemalan communities is not Spanish, but rather Indigenous languages, even though all Guatemala's public services are provided in Spanish. This lack of localization of public services creates a barrier both to understanding and communicating the experiences, perspectives, and aspirations of people living in Indigenous communities and to providing basic social and public services to them. As many people speak limited Spanish in these communities, programs, policies, and initiatives, whether public or private, that do not include localization—both linguistic and cultural— for Indigenous cultural contexts are unlikely to succeed.

Policy and regulatory factors

Advertising laws compliance must be developed and implemented

Guatemala has few regulations around food advertising, including food advertisements of processed foods to children. There are advertising campaigns with strong influence from social networks and influencers, that impact the consumption pattern decisions of and adolescents. Numerous senior stakeholders believed that there should be stronger enforcement, regulation, and oversight of food advertisements, particularly of ultra-processed foods. Moreover, numerous stakeholders also conveyed that the food advertisements in Guatemala share inaccurate and at times misleading information about the nutritional content of their foods. This contributes both to the public's lack of nutritional literacy and to the low salience that many people, and in particular adolescents, placed on the health impact of ultra-processed foods.

Regulations around minimum wage are one of the first steps necessary to promote nutrition

While some cities in Guatemala have a minimum wage because there is more control and presence of the general labor inspections. This is not the case for rural employees and employers. In any case, the minimum wage, around USD $12 per day, is not enough. Food for most families costs about USD $500 to $600, for 5 members for a month; but people earn about $150 dollars a month. Their income, consequently, is insufficient to cover the costs of food. Numerous stakeholders, from trade union supporters to government employees, acknowledged that poverty and financial scarcity are the most fundamental aspects of food insecurity and the double burden of malnutrition. For this reason, they observed that it is critical to develop pro-poor poverty reduction strategies, policies, and initiatives that address the multidimensional and intersecting experiences of poverty, which includes chronic and acute food insecurity.

Long-term, health promotion programs

The structure of Guatemala's 4-year cycles of governmental administrations creates a lack of health policy continuity between administrations. While the government's current policies, e.g., the Great National Crusade for Nutrition , aim to promote food security and nutrition, they are not resilient across government administrations, as happened to previous policies like Zero Hunger and the Chronic Malnutrition Strategy . Numerous stakeholders expressed that there is a clear need for evidence-based long-term programs with technical expertise to work across government administrations.

Developing successful health policy initiatives requires a significant investment in time, resources, and logistical coordination: rather than one policy to address the double burden of malnutrition, there is a spate of evidence-based and outcomes-oriented policies that the country needs to develop and implement as a long-term strategy to not only prevent, but also to reverse the country's double burden of malnutrition. Addressing the double burden of malnutrition requires transversal policies that focus on developing and implementing economic resilience and financial health at the individual and national levels; environmental security and health; as well as not only implementing independent oversight and regulation of policies and programs.

Summary: Key Findings by BDM Level

This chapter aimed to describe the social norms around nutrition and body image that emerged in conversation with adults and adolescent study participants in Guatemala, as well as to contextualize the findings in the context of the psychological, sociological, and environmental factors that impact them. The findings show that many people in rural and urban areas experience financial scarcity that requires them to economize their resources by growing foods at home and limiting the frequency of eating out. The findings also show that drinking sugar-sweetened beverages was a norm for most people, but especially people in rural areas, and that they experienced significant anxiety and concern about the risk of developing noncommunicable diseases. The table below summarizes the main findings that emerged from the focus group discussions.

Factors	Key Findings	Description
Psychology		
Cognitive Heuristic	Adults expressed acute concern about their health or about the risk of becoming ill if they ate many processed foods.	This acute concern with developing diabetes shows a type of **attentional bias,** where adults' concern about their risk of developing diabetes is elevated in comparison to other salient health risks.
Cognitive bias	Parents tend to have conversations about nutrition after their children have begun to habitually eat processed foods rather than before they start eating them.	This shows that that there is a **salience bias** around nutrition and nutrition education at home, where the importance of health is elevated for parents after their children start eating processed foods rather than before they start eating them.
Self-efficacy	Adults in both urban and rural areas expressed ambivalence about their ability to prevent diabetes, although they tried to limit their consumption of sugar-sweetened beverages.	This finding shows that adults have ambivalent feelings about their **self-efficacy** and their ability to impact their health outcomes.
Intent	Parents in rural areas tended to emphasize the importance of moderation and balance, rather than omitting or limiting sugar-sweetened foods.	This finding shows that many parents considered moderation to be an **intention** and outcome of health.
	Many parents in urban and rural areas said that their children were picky eaters and that they had to find creative ways to encourage them to eat.	This finding shows that eating a variety of foods and encouraging children to eat vegetables is a health **intent** that parents hold for their children.
Interests and attitudes	Affordability and proximity were the two main qualities that participants typically sought in their food purchases, while variety was a third important factor in urban areas.	This finding shows that participants were **interested** to find a balance of these two characteristics in their food purchases.
	Participants expressed a strong desire for evidence-based government regulation, policy, and nutrition programming to be implemented across the country.	This finding shows an **attitude** that most people in the study value and want their government to develop public health programming, regulation, and policy.
	Although most adults serve and eat vegetables daily, adolescents often find eating vegetables to be monotonous and uninteresting.	This shows that variety and enjoyment are two qualities of **interest** to adolescents in their food decision making and preferences.
Sociology		
Social Influence	Family and social media have a large role in promoting health	The conversations with family members and on social media are a form of **social influence** for children's and adolescents' desire to engage with family members and peers.
	There are remedial ways associated to carbonated sugar-sweetened beverages to alleviate the symptoms of fatigue or illness, which are sometimes recommended by healthcare professionals.	Most people learned to use carbonated sugar-sweetened beverages in remedial ways from people in their families, which shows that socialization and **social influence** about health inform future practices.
	Most parents in urban and rural areas considered giving toddlers warm coffee to drink in the morning normal and a cultural identifier in Guatemala, where children learn to enjoy drinking it as they grow up.	This shows that socialization and familial habits around coffee consumption were a strong **social influence** on the development of children's taste preferences.
Community Dynamic	Eating out, mostly at international restaurant chains, although considered as a non-essential expense is linked with celebrations and spending time with family.	Going out to eat with family on special occasions creates an opportunity for family or community members to visit each other and to share affection.
Gender Norms	Household labor was typically seen as women's work and adolescent girls were also expected and taught how to do this work.	There is a **gender norm** in which while household and meal preparation is typically women's responsibility, men contribute when it is necessary, such as when women are minding young children.
	Many men described their role as that of the primary household earner, and the norm in most families was that men managed the household finances, i.e., they approved purchases, while women were expected to calculate and identify the most economical food purchases.	With this **gender norm**, men described their participation in the decisions around food and eating as help rather than as their responsibility.
Meta Norm	Many people consider thinness to be as sign of health, although this differs from the norms in their communities.	While most people had larger bodies in the communities where participants lived, they considered thin bodies to be healthier than larger bodies, which illustrate a **meta norm** in which thinness is considered demonstrative of health.
Environment		
Communication environment	The structure of Guatemala's 4-year cycles of governmental administrations creates a lack of health policy continuity between administrations.	This finding suggests that the structure of short-term health policies leads to inconsistent messaging in the **communication environment**.
Infrastructural barrier	The increasing corporate land privatization and the development of de jure land ownership models oppose traditional models of de facto communal ownership and limit access to natural resources.	This transition to de jure models of land ownership creates an **infrastructural barrier** to accessing natural resources and growing food for many people in rural parts of Guatemala.
	Lack of access to potable water presents a substantial health and nutritional risk to many children in Guatemala	This presents a critical **infrastructural barrier** to achieving and maintaining population health in the short and long terms, and it is an important variable in the equation that produces the country's double burden of malnutrition.
Governing entities	Guatemala's medical and mortality records system does not report whether a child, or indeed a person, suffered from malnutrition.	This presents a challenge to systematically documenting and addressing burden of malnutrition across the country
Structural factor	The lack of regulation or nutrition policies creates an environment where nutritional education was the responsibility of the individual, rather than the state.	This creates a dynamic where the responsibility of health is placed on individuals while **structural factors**, e.g., infrastructure, policies, education, create conditions where some people are more likely to have positive and worse health outcomes.
Structural barrier	As many people speak Indigenous languages as their primary or only language in many communities across Guatemala, this creates a barrier to their ability to meaningfully engage with public services, which are run in Spanish.	This creates a **structural barrier** for many people from Indigenous communities to access and meaningfully engage with public services in Guatemala.

Table 18 Summary of key findings from Guatemala study

Conclusion

This chapter documents the main social norms observed around nutrition and body image in Guatemala. The findings show that socio-economic factors significantly impact what and how people eat and that these factors contribute to normative behaviors and attitudes around nutrition and body image.

Most people, in both urban and rural areas, ate about three meals per day and a wide variety of fruits and vegetables, which they either grew at home or bought in a local market. They tended to eat out infrequently and usually to mark special occasions like birthday celebrations. Adolescents also tended to eat ultra-processed foods, e.g., sugar-sweetened bread and sodium and fat rich fried foods, as snacks either in the morning or afternoon. They also drank a variety of sugar-sweetened beverages throughout the day, which included coffee and atole in the morning and sugar-sweetened beverages like fruit and flower infused water and carbonated sugar-sweetened beverages.

Individual behavioral factors impacted what and how people conceptualized health. Salience bias, or the tendency to focus on information when it is prominent or appears important, influenced when many parents started discussing health and nutrition with their children—which was usually after their children had begun regularly consuming processed foods. Similarly, attention bias, or the tendency to prioritize thinking about certain types of information, appears to influence many adults' acute concern about developing diabetes to the exclusion of other communicable and non-communicable diseases. This normative behavior is likely driven by three intersecting factors, namely the consumption of carbonated sugar-sweetened beverages, the prevalence of diabetes in people's environments, and the lack of capability and opportunity that people feel about preventing it or changing their environments.

Numerous participants shared that they felt personally responsible for preventing diabetes in themselves and their children. Their reference to diabetes also hints at the possibility that diabetes and non-communicable diseases in general are stigmatized and considered to be the fault of the person living with it. For example, several people referred to diabetes as a disease caused by a lack of knowledge on the part of the consumer of carbonated sugar-sweetened beverages. This rhetoric focuses the possibility of care and disease prevention onto consumers and blames them when and if they develop disease.

The rhetoric of knowledge focuses on individual behavior to the omission of macro-level factors in people's environments that create conditions in which drinking carbonated sugar sweetened beverages is not only a normal, but also a logical, choice. Such factors include the unregulated food and beverage marketing sector, and the conflicting advice of healthcare professionals, some of whom advised parents to give their children carbonated sugar-sweetened beverages to treat illnesses like chickenpox. Furthermore, the scale of this problem at the national level means that public health interventions and discourses need to shift and refocus the responsibility of care from individuals' decision making to the environments that drive these decisions.

Gender norms were similarly driven by social and structural factors in people's environments. The finding that household labor is almost universally considered the responsibility of women appeared to be driven both by the prevalence of seeing women and adolescent girls doing household labor and by the discursive constructions of describing men's and adolescent boys' household participation as "help" rather than as their responsibility. This type of discourse reinforces the gendered division of household labor because it implies that men's and boys' participation is auxiliary rather than fundamental to household management.

Similarly, body norms were driven by sociological factors in people's environments. The study found that both men and women tended to consider thin bodies to be healthier than larger bodies, despite the range of body sizes they saw in their communities. This norm was driven by the conversations at home and in people's communities that emphasized that health, embodied by thin people, is maintained by a

person's ability to "balance" their consumption of fruits and vegetables, processed foods and beverages, water consumption, exercise, and emotional wellbeing. As with the finding about people's concern about developing diabetes, this conception of thinness places the responsibility of health, defined by most participants as balance, on the individual: it is the individual who is expected to find balance between their working and home lives; to care for and maintain physical, emotional, and social wellbeing.

While this conception of health can empower individuals to act, it can also overlook the structural factors that inequitably predispose some people to certain health outcomes. These factors include socio-economic status, access to potable water, geographic location, membership in Indigenous communities, and the ability to speak Spanish enough to engage meaningfully with social services. They also include the regulatory and physical infrastructure of people's environments, such as the regulation of processed foods and the walkability of their neighborhoods and communities.

Considering the range of factors through a processual lens, as this chapter has aimed to do, provides a depth into understanding Guatemala's nutrition and body image related social norms and the contexts in which they develop. It focuses the research questions on how and why social norms are specific to the communities in which they exist. At the same time, this focus tracks the numerous systems factors that drive patterns of behavior, that dispose people to particular health outcomes, and that decision makers can identify as levers to drive social change. In so doing, this chapter aims to provide a documentation of norms and their drivers, which can also describe the opportunities available to decision makers to create policies, programs, and initiatives that promote the health of all communities and people in Guatemala.

Mexico: Main Findings

Geographic Context

Participants from Mexico lived in the State of Mexico, Oaxaca, Querétaro, and Jalisco. Most participants lived in the State of Mexico, Mexico City, and Oaxaca, which is in south-west Mexico. They lived across urban (city center and greater municipal) and rural (peri-urban and rural) parts of each region.

The findings below reflect the experiences of people from the study living in these regions with access to the internet and experiencing financial vulnerability. The findings thus aim to represent the experiences of people in this sub-population, rather than represent the national population.

Eating Habits and Practices

Rural Communities

Number of meals

In rural communities, both adolescents and adults, much like people in urban areas, consume a high amount of sugar and low fiber foods. Virtually all respondents described eating three meals, which consisted of breakfast, lunch, dinner, plus an afternoon snack. The foods that they ate, particularly for snacks, included sugar-sweetened beverages, cookies, and sweetened cereals, as well as meats and breads. Breakfast typically included carbohydrate, fiber, and protein rich foods like breakfast cereal, fruit, and eggs and beans, such as enfrijoladas and entomatadas. Enfrijoladas are a type of enchiladas that is made from dipping corn tortillas in a sauce of coarsely pureed black beans, folding them in quarters and then heating them on a griddle. Entomatadas are also a type of enchilada that is served with a corn tortilla fried in oil and then covered in a tomato sauce made from tomato, garlic, onion, and chili. Lunch typically consisted of carbohydrate and protein rich foods like vegetable and meat stews, beans, rice, and tortillas. Dinner was often a small meal that resembled breakfast and included foods like fruit and oatmeal.

In comparison to people in urban communities, people in rural communities described eating a much wider variety of fruits and vegetables. Many of the fruits and vegetables that they ate came from their own or local gardens and farms. The data showed that people's meals tend to have a higher nutritional density than snacks and beverage refreshments, which tend to have more sugar and which they describe in ephemeral ways.

Typical variety of Ingredients

Many respondents described eating a wide variety of fruits, vegetables, and proteins, many of which they grew or raised themselves. Among the vegetables that they mentioned were broccoli, cauliflower, pumpkin, green beans, chayote, potato, tomato, zucchini, carrots, and jicama. They also described eating a variety of fruits, including banana, papaya, oranges, watermelon, apples, mango, berries, starfruit, and prickly pear. They also described growing or raising many of the foods that they ate or procuring them from nearby farms. For instance, many people described growing herbs like cilantro, mint, and basil, as well as vegetables like radishes, cucumber, and onions and fruits like lime. However, one important observation is that while participants in rural areas where the study was conducted said that they had access to a wide variety of fruits and vegetables, the meals that they ate did not always reflect this variety. For instance, several people shared that their meals often consisted of carbohydrate and protein rich foods and small quantities of fruits and vegetables. This indicates that while participants may have access to a wide variety of fruits and vegetables, the quantity of these foods in their diets may be less.

One motivating factor behind the decision to grow foods at home is the economic incentive to save money by cultivating one's own land. For example, one mother of young children said that her decision to grow fruits and vegetables, as well as to raise chickens was motivated by seasonal increases in the price of food:

> 66 *Well, for my part, yes, for example, when the chicken prices go up a lot. For example, right now this season all prices have gone up a lot. And as I said before, there are five of us in our family and we try to save as much as we can. So yes, it has been hard sometimes, but as she says, I try to raise chickens or grow foods; whatever I can have in the house.* 99

This passage shows that families in rural communities compensate for increases in food prices and the distance that they must travel to greengrocers and supermarkets by growing food and raising animals. It also suggests that gardening is a practice that is both familiar and known to many people. This makes it easier for others to begin their gardens and to learn from others about the best ways to grow foods locally.

Another of the reason for their decision to grow foods at home is the social practice, indeed the tradition, of farming in rural parts of the country, where people have historically had milpas. The milpa, meaning "cultivated field" in Nahuatl, are a traditional crop-growing system, including maize, beans, and squash, that have been used across Mesoamerica, which includes southern Mexico. Milpas are more than an agricultural system. They are also a sociocultural construction that brings together and binds the family, community, and universe. In the context of contemporary Mexico, particularly in Oaxaca, respondent also described similar understandings of the ways that farming binds community. One father, for instance, described how visiting his father fortnightly for fruits and vegetables from his greenhouse was also an excuse to visit his parents:

> *With my parents, I am from a community near Tlacolula, so my father has a greenhouse where he produces tomatoes, onions and every time we go there, we get limes. It is not about an every-week thing, but about every two weeks, we also go to see them.*

This passage shows that both growing and sharing local foods are important ways to build community and relationships. By sharing produce, it creates an opportunity for the father and son to visit, as well as an opportunity for the grandfather to build a relationship, and potentially to teach farming practices, with his grandchildren.

Ingredient selection

While affordability, quality, and proximity were the main qualities that people sought in their foods, they shared that they often prioritized buying "essential" items because they could not afford more items. Most people shared that they prioritized vegetables and animal-based proteins over fruits, canned, and bulk foods because these foods are satiating. For example, one father shared that his family prioritizes protein rich foods like meat as well as vegetables and that they do not purchase canned foods. Similarly, another father shared that when his family experienced increased economic constraints, then they prioritized meat and animal-based proteins over all other foods.

Economic constraints affect the types and quantity of food that people prepared, as well as the food that they bought. Most people purchased their groceries at local markets, which they said were less expensive. Conversely, they felt that supermarkets were more expensive and that they often required a lot of time to reach. When buying groceries at supermarkets, they typically bought items in bulk, such as dried starches (e.g., rice, pasta, flour), dairy products (e.g., milk), and occasionally milk. Moreover, economic constraints also affected the frequency of their grocery purchases. One father shared that he and his family bought food daily if they were unable to afford to buy food weekly. This indicates that they likely experience acute food insecurity at times during their chronic food insecurity. He said that his family sometimes purchased food daily if they were experiencing acute food insecurity.

Meal preparation and serving

Most respondents shared that the women in their households were the main people responsible for meal preparation and serving. In many households, children participated in meal preparation by setting the table, chopping vegetables, washing dishes and, for older children, cooking occasionally. Both women and men shared that men typically had a limited role in meal preparation, where they mostly contributed by earning money. They both similarly shared that men participated in kitchen labor when their wives were at work or unable to prepare food. This norm that men participate in household labor to help or support women further emphasizes the gendered norms around household labor: it demonstrates that men's participation is not the norm and that they consider their participation to be of help rather than as a part of their household participation.

Eating Out

In rural communities, people across age groups described eating out as a form of leisure and recreation. They saw it as a treat, a special food eaten as a reward or given to oneself or a loved one as an expression of care and love. One father, for instance, said that he and his family "eat out often" after work because they are too tired to make dinner. Another mother said that she buys her children sweets once a month. She said, "I ask them what bag of candy they want so that I can buy it for them." She also said that her children eat sweets daily, in the form of flavored water and popsicles. Another father described going out to eat on Sundays to care for his wife, so that she did not need to cook on that day:

> *Well, just to start with we pamper my wife, we don't let her cook anything, Sunday is really about cravings all day long: In the morning, in the afternoon and at night. The stove is untouched and not used, the oven is not used, nothing is used. In the morning there are always tamales and atole, in the afternoon if we vary it, for example, it can be pizza and chicken, things like that, normally not every Sunday it is the same, we always try to change it, and in the evenings, it is tacos, but we change the style of tacos. For example, sometimes we eat pastor tacos, other times fried tacos, sometimes the golden tacos that they call fritangas, although I don't know what they call them in other places.*

The infrequency by which people described eating out shows how this can facilitate restaurants' status as aspirational places to eat that people associate with celebration and family. Most adolescents in rural communities, for instance, said that they went out to restaurants only with their families and grandparents. They also emphasized that eating out was not something that their families did frequently because the cost of eating out could be prohibitive and the restaurants were not always nearby. These experiences demonstrate that the salience of eating out lies not in the food itself. Rather the salience and the desire to eat out lies in the social interactions and experiences that it facilitates. In the case of many families, this means that they can spend recreational together. Moreover, these findings show that there is a descriptive norm around eating out, namely that people consider eating out an important way to spend recreational and leisure time with family.

Snacks and Treats

Like in urban communities, the types of food that people in rural communities ate for snacks often resembled dessert or treat foods, including cupcakes, chips, and candies. The foods that adults and adolescents in rural communities described eating for snack differed significantly, with adults tended to eat fruits and adolescents tending to eat processed foods. Moreover, the data show that primary social

norms distinction that people made between snacks and treats was not in what people eat, but where and how they ate the food.

People's choice environment was the primary determinant of what they ate for snacks. Adolescents described buying many types of processed food snacks at food stands outside of their schools or on their walks to and front school or work. Moreover, they similarly described snacks as filling "cravings" which could be satisfied with convenient and ephemeral foods, such as those purchased on a walk home, that were satiating enough to fill the craving but also not so filling as to be a meal.

Furthermore, many adolescents in rural communities, like those in urban communities, explored their first experiences of independence through food purchases, which usually were small items like popsicles and chewing. For example, one adolescent girl said that she bought "popsicles at the food carts" and another adolescent girl said that she mostly bought gum "at the grocery store near home or the school." This suggests that when adolescents buy foods, it is not only often a small food purchase, but it is also often a chance for them to exert, explore, and engage their own sense of food autonomy.

Beverages

Respondents in rural communities drank a range of beverages that included water, juice, coffee, and herbal teas. They also said that carbonated sugar-sweetened beverages were being omnipresent in their physical and social environments. Several people felt, for instance, that they were surrounded by cola products in their neighborhoods. One person described the arrival of carbonated beverage companies as "impressive" because they have managed to become omnipresent in ways that fresh produce and meat are not:

> *" It is the arrival of these companies, it is impressive, you are not going to find meat, chicken, fish, vegetables everywhere, but [carbonated sugar-sweetened beverage brand] you'll find it everywhere. "*

While this quotation shows that carbonated sugar-sweetened beverages are ubiquitous, it also shows at the omnipresence of carbonated sugar-sweetened in people's diets. In focus group discussions, respondents shared that carbonated sugar-sweetened beverages are a central part of people's social identity and that drinking carbonated sugar-sweetened beverages after working hard, e.g., on a construction site or after doing household labor, is a social norm in many contexts. Moreover, it is often one of the first soft-drink beverages that children try; it is recognized as a tasteful pairing with tacos and local cuisines; it is an important refreshment in rituals of hospitality; it is a remedy for indigestion and low blood pressure; and it is often even used to clean the house, e.g., to clean car oil stains on concrete.

For many children, carbonated sugar-sweetened beverages were the first soft-drink that they tried. One man compared letting a child sip cola to giving them a sip of beer to satisfy their curiosity. This suggests that cola beverages are not only often present in the environment, but that they are also visible to children, who become curious to try them. He said that his child tried her first carbonated sugar-sweetened beverage in a "sippy cup" when she was about 2-3 years old. This shows trying carbonated sugar-sweetened beverages is considered to be a part of a child's maturation from infancy to childhood, when they can explore and enjoy new flavors and tastes that they might not enjoy or be able to enjoy in infancy.

Many adults and adolescents also described carbonated sugar-sweetened beverages as familiar pairings with meals. For example, one father said that carbonated sugar-sweetened beverages pair well with meat-heavy dishes that are common to Oaxaca. Similarly, other people described how they bought

3-to-4-liter bottles of carbonated sugar-sweetened beverages daily to serve at mealtimes. This indicates that carbonated sugar-sweetened beverages are a common accompaniment with meals and that drinking carbonated sugar-sweetened beverages with meals is a norm in many families.

Offering guests a glass of a cola beverage is also practice in many rural communities. One father described drinking cola beverages mostly when visiting the countryside and encountering women selling it on the roadside, which he recalled as a greeting to the region. Another father said that his family drank cola beverages when they are guests at another person's home, or when they buy it for guests visiting their home. This suggests that offering cola beverages is a descriptive norm in many rural communities and that it is recognized as a gesture of generosity and politeness, as well as of economic stability and wellbeing.

Like people in urban communities, people in rural communities also described carbonated sugar-sweetened beverages as having remedial health qualities. These qualities were analogous to those in urban communities and included being consumed for indigestion, e.g., cola alone or with lemon. They also described it as a treatment for low blood pressure, which participants mainly described in terms of feeling dizzy and lightheaded. This suggests that drinking carbonated sugar-sweetened beverages to relieve indigestion and dizziness is a descriptive norm across the areas in the study.

Unlike respondents in urban communities, where respondents frequently described drinking soft drinks in moderation, respondents across age groups in rural communities discussed infrequently. Rather, they referred to carbonated sugar-sweetened beverages as being indispensable parts of their diets and social identities. For one, many said that they drink it in place of coffee for its caffeine content. For another, many also described it as simply a part of their lunch and dinner, much like tortillas and beans.

To demonstrate the strength of the social norm of drinking carbonated sugar-sweetened beverages, one man described how is staff at a construction site refused to work when he tried to swap carbonated sugar-sweetened beverages and powered coffee for healthier alternatives. He said:

> *In my case I get to work with teams of construction workers, and I know they drink a lot of [carbonated sugar-sweetened beverages]: with their breakfast and their lunch, C* [carbonated sugar-sweetened beverage brand] essential for them. We pay their food and I have told them that we are not going to buy [carbonated sugar-sweetened beverage brand] anymore, but they have told me that if they do not drink C* [carbonated sugar-sweetened beverage brand], they can't work because it helps them stay awake. I also work street vendors and, when they work at night, they take C* [carbonated sugar-sweetened beverage brand] and [dehydrated, powdered coffee] to stay active all night long. It is a difficult topic.*

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Urban Communities

Number of meals

In urban communities, most adolescent and adult respondents reported the consumption of a high number of sugar-sweetened drinks, cookies, and sweetened cereals, as well as meats and breads. Nearly all respondents said that they eat three meals and a snack: breakfast, lunch, dinner, and an afternoon snack which includes some vegetables and fruits. Many respondents said that their dinners were "light" and consisted of cereals with milk or yogurt, breads (especially cakes and cookies), and sweet breads. Many respondents also cited snacks like potato chips, although they mentioned eating these foods less often than sweetened foods and beverages. The data also showed that there was likely more nutritional value in the foods that people ate for main meals, such as for breakfast and lunch, where there was lower nutritional value in the foods eaten for snacks or small meals.

Typical Variety of Ingredients

The foods that interviewed people in urban communities eat daily include a range of meat, sweetened cereals, breads, and vegetables and fruits eaten as complements, but not typically as meals in themselves. Moreover, meals in urban communities included fewer and less variety of fruits and vegetables than in rural communities, where many adult respondents often said that they were able to either grow or affordably purchase vegetables and fruits. In urban communities, the meals that respondents described centered around filling proteins and cereal-based ingredients. For instance, several adult respondents described eggs, beans, cheese, tortillas, and meat as their principal cooking ingredients. They described incorporating vegetables for texture or flavor, such as in vegetable soups, omelets with spinach and onion, condiments like salsas, and occasional salads with vegetables like nopal (cactus), jicama, and cucumber. Furthermore, most respondents described eating and serving light evening meals of breads and cereals, which suggests that they eat their nutritionally dense foods in the middle of the day.

Ingredient selection

Affordability, quality, and proximity were the three main qualities that respondents described as determining their purchasing decisions. Adult respondents in urban communities described going to several stores, including local butchers, greengrocers, and weekly markets (often referred to as tianguis) and supermarkets with good sales and affordable prices. This span of purchasing locations enabled respondents to identify and obtain ingredients that are the best quality for the best price. They described going to supermarkets to buy bulk items, which include beans, rice, canned foods, and cooking oil. They, conversely, described going to local markets to purchase "essential" perishable foods such as animal-source proteins, e.g., meat and eggs.

Respondents shared that they always have a mental calculation of price over quality while shopping. One respondent, for example, shared that she is willing to forgo quality if the price is significantly lower. She described her calculus:

> *Look, as I was telling you, I mostly go to La Merced (a local market) every week, I try to buy enough products to avoid having to go to the market, I just go to the market if I forgot something, or to buy the epazote, coriander, herbs, because they don't last long, you have to use them right away they will get spoiled. So, I try to buy that type of herbs in the market; I buy my beans, my rice in [A* a supermarket], the lentils, the soup, because I look for cheap prices. Maybe I will find the brand Which like in the market but the bag of beans costs up to $40, $50 there; and the one that I buy in [the A* supermarket] costs more or less $30. I know that these beans are harder, but what I do is that I soak them overnight and the next day I cook them, otherwise they would not cook evenly. I buy the lentils there, the rice, the soups and, well, since my daughter likes sauces, then I buy [V* a brand of hot sauce] for her. I feel that [the A* supermarket] is very cheap.*

This passage demonstrates a pattern among the ways that respondents described their shopping and decision making. It shows that affordability is a critical determining factor for food purchases, and that while quality is a characteristic that they can concede if the price is better. Moreover, as in rural communities shows a gender norm in which household work is primarily the responsibility of women, most of whom work full time and have little time to purchase groceries and plan meals.

In other cases, respondents described forgoing and making do without culturally important ingredients. Many respondents said that limes, which are a ubiquitous condiment across Mexico, had become un-affordable. One father, for instance, said: "My family loves lime but it is very expensive now and, sometimes, I buy lime instead of other foods, I make a decision as to what is most essential, I try to compensate." Another father shared: "Lime… you pay $80 pesos for one kilo of lime costs. Then you evaluate if you really need it and look for other options. A third father shared, "Since lime is expensive, we prefer to buy fruit." These passages illustrate that affordability is a primary factor in people's decision making, even for ingredients like limes that are important to local cuisines.

Proximity was also an important factor about where and when to buy ingredients, particularly because transportation costs (money and time). Most respondents indicated that their preferred shopping locations were within walking distance of 5-15 minutes. One mother said that she tries to buy all her groceries at a street market, which is a five-minute walk from her house, but that she also takes the bus to [two supermarkets], which are thirty minutes away, for bulk items. Her observation corresponds with existing behavioral research on "The Five-Minute Walk", also known as the "pedestrian shed" (usually about 0.25 miles). It is considered the maximum distance that people are willing to walk before opting to drive. Respondents indicated that they were willing to drive or take public transportation if there were no closer options and the economic expenditures resulted in savings.

Meal Serving

Most respondents shared that women in their households are the main people responsible for household labor. While nearly all participants said that women in their households, in particular mothers and wives, were also the primary responsible for food serving, serving meals was a family and household activity. Most adolescents and adult men said that they participated by "helping" to serve the food, set the table, prepare drinks, and wash dishes. Many adult men said that they helped their wives to in meal preparation and serving, esp. for breakfast and lunch, if she was busy or working and unable to prepare foods, which was something that women also said. Many also shared that one of the main barriers that they felt to participating was that they did not know how to cook or did not cook as well as their wives.

While one father shared that he learned to cook on YouTube after being laid off from his job and to help his wife who was working, his motivation to learn was not the norm for most families. His experience shows a more extreme circumstance than that of most participants: Economic scarcity pushed him to help his wife.

The prescriptive gender norm here is one in which women often prepare and serve foods independent of their working status (either at home or in the labor market), while men primary work in the labor market and are the main household earners. Moreover, as before, the norm that men's participation was consider to be "help" rather than their household responsibility further underscores gender norm and the fact that household labor is considered women's responsibility.

Eating Out

Most people shared that they rarely ate at restaurants, but that they frequently ate at a range of food stands or street food vendors, convenience stores, and cafes. When they ate at restaurants, they described it as special events. Often, they described eating with family or friends for a special occasion celebration or spending time together on a weekend. This preciousness suggests that respondents have an emotional association with going to eat out, particularly at restaurants.

One mother, for instance, described how she associated eating "suadero tacos", which are tacos made with thinly sliced meat, with her husband and daughter on Saturdays as a "little luxury" that they do not eat during the week. She said:

> *Yes, I usually go out on Saturday afternoons, but I only go to places that are clean, I look for those places because I do not like to eat at street places. I usually try to go to a place where I know what they are giving me, and they are not the traditional small suadero tacos, they are bigger and they are served with fries, they give you the all the usual toppings: cucumber, nopal (cactus), prepared to your own taste. The tacos are not expensive, only MXN $21 each 100 (approx.. 1 USD), my girl and I only have one and my husband eats two, but, in general it is on Saturdays when we try to eat those tacos, like a little luxury, but during the week we eat normal food, that is what I prepare here at your home.*

This quote shows how going out to eat is a family ritual that marks the work week from the weekend, which is associated with rest and small indulgences. She notes that they eat the tacos only on weekends (Saturdays), and her comment about the special occasion of eating this food emphasizes that is a special time and a food that facilitates quality time with her family. Moreover, many adults and adolescents described their experiences of eating out at restaurants in aspirational terms. They also described their contentment with eating at these places as stemming from the time that they spent with others.

While adolescents described their experiences eating out in similar ways, they also described these experiences in terms of exploring their independence as people on the cusp of young adulthood. One adolescent girl, for instance, said, "Well, I really like the O* [a convenience store], I always go to the O*, I don't really like stands or restaurants." This shows that she explores economic independence through food purchases. It also indicates that she lives in a food swamp: it illustrates the presence of this convenience store that has proliferated across Mexico and that is replacing small and family owned businesses. Moreover, another adolescent male similarly described enjoying the independence of eating out at a restaurant that his family did not like, but where he could select foods by himself. These experiences show that adolescents identify and explore independence food and economic decision making through food purchases. In the case of the male adolescent who described his enjoyment in comparison to his family's concern and displeasure, it also shows that these food purchases are part of their social development and independence as teenagers who think about and experiment with what they consider to be adult activities.

Snacks and Treats

Across age groups, people's snack choices and preferences included sweetened, often ultra-processed, foods that blurred the line between a small meal and a dessert. Typical snacks included fruits, cookies, sweet breads, as well as salted foods like potato chips and chicharron. Most respondents said that they ate a snack in the afternoon. One mother, for instance, said that she prefers "to give [her children] chopped mango; it costs about 15 or 20 pesos a kilo" because it is more affordable than giving her children money to buy snacks at school. However, most people described eating or giving their children sweetened or ultra-processed foods such as potato chips and cookies. This suggests not only that these sweetened snacks are a social norm.

The surrounding food environment that people described was the primary determinant of snack food choice. This is noteworthy because many respondents described snacks as being foods that satisfied cravings, that they did not need to spend time preparing and that were immediately satiating.

Another factor that impacted food choices, particularly for children, was the desire to fit in with others and conform with foods that others eat. For instance, one mother described "trying" to give her daughter fruit for school snack, but ultimately including potato chips because that is what other children eat:

> " *Well, I give my daughter her school lunch, but I try to give her some fruit and I also buy some of those small potato chips bags that they sell in *A [a supermarket], I also give her that because her classmates have them for lunch and she craves for them. I try to give her more fruit or a yogurt, or a mini pancake, but, yes, she sees her classmates eating the potato chips and she says: why can't I have some, mommy; I try to give her the little bags only 2 or 3 times a week. She eats that too.* "

This example shows that social norms around fitting in or pleasing one's child might play a role in the decision about what to eat and which snacks to give children. In this instance, the mother knew that her decision to give her daughter chips was helping her to fit in with other children. This hints at the strength of the norm among children and adolescents in school: it suggests that foods can be a marker of social similarity and difference.

Another pattern among some parents was that "homemade" foods are healthier than store-bought foods. This was particularly evident among mothers of infants and toddlers who described "making" gelatin snacks from sachets, which they described in similar terms to other, often more nutritionally

dense, foods that they made. Several mothers of young children described having gelatin snacks available at home to feed their infants and toddlers. One mother, for instance described gelatin as a comparable snack with fruits. She said, "my girl always eats gelatin or apples; any fruit, apples, grapes, bananas, whatever. In this interaction, the mother lists gelatin as an alternative to apples or "any fruit". Similarly, two other mothers described having "fruit pudding" or and fruit gelatin, e.g., "papaya gelatin", available for their babies to eat. This indicates that they considered homemade gelatins to be analogous to eating fruit, which it often contained.

While adolescent snack patterns largely resembled those of adults, there were important distinctions between those of adults and adolescents. Adolescents, for one, tended to have stronger brand identifications and identified socially with food products. While they did not tend to describe foods in aspirational terms, they often indicated that they identified strongly with one brand rather than with the type of food or with other brands. One adolescent boy, for instance, said that he only chewed a particular brand of gum: the flavor, he said, was irrelevant, but the brand was important, suggesting that he identifies closely with what the brand signifies to him, more than the taste.

Beverages

In urban communities, respondents described drinking a wide variety of beverages. They also described various associations with "healthy" and "moderation" in terms of beverage consumption and choices. The typical drinks that people described included water, flavored homemade water, milk, and sugar-sweetened beverages, e.g., carbonated sugar-sweetened beverages and juice. They also described drinking coffee, and atole. Atole is a sweetened beverage made often from oatmeal, corn flour or masa. This beverage usually includes water, unrefined cane sugar known as piloncillo, cinnamon, vanilla and chocolate or fruit as a garnish.

Respondents described their experiences drinking sugar-sweetened beverages as memorable, while they more often referred to drinking "plain" water in passing. Across age groups, respondents often described having strong brand associations with beverages. They also described how they associated drinking and making homemade flavored water, which were nearly always sweetened with sugars, as a form of self-care. This suggests that many people associate drinking sugar-sweetened beverages with not only pleasure, but also with wellbeing.

Many parents, especially mothers, described making flavored water as a form of care for their children and family. They also described flavored water in similar terms to unflavored, natural water—if not exactly analogous, then substantially similar because it has much less sugar than soft drinks. For example, one mother described how and why her family drinks plain and flavored water:

> *[Moderator] Ok, perfect. What did you want to tell us about drinks? What kind of drinks do you drink at home?*
>
> *Well, they do drink juices, but I hardly buy them. I give them mostly plain water or the flavored drinks we prepare at home.*
>
> *Ok. And the flavored drinks that you prepare at home, how do you prepare them?*
>
> *– I buy hibiscus flowers and I add water to them. Or else I make lemon or guava drink, or pineapple drink. I don't buy those powders for preparing drinks.*
>
> *Why don't you buy the powders?*
>
> *Because I think they have a lot of coloring and sugar, and I don't like that.*
>
> *Do you sweeten the drinks that you prepare with hibiscus, guava?*
>
> *Yes, I do.*

This passage shows that this mother thinks about flavored water in different terms from carbonated sugar-sweetened drinks. By saying, "I don't buy those powders for preparing drinks," she indicates her aversion to flavored water made from powder. This shows that she thinks about homemade flavored water as healthier for because it does not have power or food coloring. Another father expressed a similar aversion to powdered drinks for health reasons. He said:

> " *At home, [we usually have] fruit-flavored waters such as guava-, melon-, watermelon-flavored drinks and plain water. Due to issues with the boy's teeth, we decided to stop drinking soda. We used to drink a lot of soda and switched to T* [a powdered drink mix brand], but it was also harmful. Later, we opted for fruit-flavored drinks, specifically hibiscus drinks. Soda is still consumed although rarely and we definitely never have cola sodas* "

This passage demonstrates a pattern in the way that people describe flavored water: as a healthful alternative to soda, juice, and other sugar-sweetened beverages, but one that also is associated with a feeling of recreation and even luxury. Moreover, it also illustrates that this parent does not realize that powdered fruit flavored beverages are as unhealthy as carbonated sugar-sweetened beverages, for example. One mother, for instance, described flavored water as "a little luxury". This suggests that there is a norm among families that flavored water is like water in that it provides a healthful alternative to juice, soda, and other sugar-sweetened beverages.

While nearly all respondents described carbonated sugar-sweetened drinks as an unhealthy beverage, they also noted that carbonated sugar-sweetened drinks are used in remedial ways. One female adolescent said that it can be consumed "to increase your blood pressure". Numerous respondents described drinking carbonated sugar-sweetened beverages plain or with lemon or sodium bicarbonate to relieve indigestion. For instance, one adolescent described how her aunt or uncle would give her a carbonated sugar-sweetened beverage with lemon and salt "when we felt sick or had diarrhea". Another adult respondent described boiling the cola before adding lemon. This effectively creates a syrup, akin to other medicinal syrups like cough syrup, to relieve stomachache.

Adolescents described having strong brand associations with sugar-sweetened beverages. These associations included both international and national brands. Many also described having strong brand associations with fruit juice drinks, e.g., with orange juice brands. One male adolescent, for instance, said "I am more of a C*[carbonated sugar-sweetened beverage brand] drinker," and several others described liking specific brands. This illustrates the targeted marketing strategies of the beverage industry, such that many adolescents have not only positive memories and emotions linked with drinking these brands, but that they also have a sense of social identification with carbonated sugar-sweetened beverage brands.

Across age groups, respondents described their understanding of moderate soft drink consumption as including 2-3 beverages per week. Some respondents said that they never drink soft drinks, or that they only drank them at special occasions like parties or celebrations. However, most respondents expressed that they do drink carbonated sugar-sweetened beverages on a regular basis, although they referred a range of understandings about what regularity and moderation mean. For instance, one other said: "We drink soda 1 or 2 times a week, we almost never drink it." Another mother said that her son and daughter, between the ages of 0 and 5 years, have soda when they have a craving. Adolescents described a similar feeling of infrequency of their sugar-sweetened drink consumption, which further suggests that people may not associate eventuality with the feeling of a craving rather than a pattern of drink consumption.

These passages show that people may associate irregularity with the feeling of spontaneity of their cravings, rather than the consistent and regular pattern of the number of beverages that they drink per week or day. This type of behavior demonstrates a type of affect heuristic , where people make decisions based on how they feel in a particular moment, in this case a craving for something sweet and refreshing, rather than how they think about the situation. In this case, this means that they may elide thinking about how many previous similar drinks they've recently had and whether this consumption aligns with moderation or not.

Psychological

Behavioral Characteristics Influencing Eating and Physical Activity

Knowledge and Interests about Nutrition and Healthy Eating

Adolescents, aged 14-16

While adolescents, compared to parents, showed limited knowledge about nutrition, other aspects of food were more salient to them. These aspects centered around eating with other people: They described how they enjoyed going out to eat with family and friends. They also shared that they enjoyed buying snacks at food stands and convenience stores, which were likely some of the first places where they exerted complete autonomy over their food decisions. Moreover, they also mostly described eating processed foods in ephemeral and transitory ways, where processed foods were a vector to a social experience such as of eating with friends or recreating after school. This underscores that while nutrition has low salience for many adolescents, the social experience of spending time with their friends, eating together, and independent economic decisions are highly salient to them.

Parents of children aged 0-5

Parents of children aged 0-5 years expressed much concern about their children's nutrition, if limited knowledge about the impact of sugar on their child's health. Most mothers shared that they tried to incorporate a range of foods into their child's diet and to introduce their child to diverse foods so that they could enjoy many foods while growing up. They also shared that they feel constraints on their temporal and financial resources. This contributes to their decision to have pre-prepared foods available, which often included sugar-sweetened snacks and beverages (e.g., "Chocomilk") for young children.

Another factor contributing to the high amounts of sugar is a bias toward considering homemade foods and beverages to be healthier than pre-packaged and processed foods. These foods are easy to incorporate into traditional diets and often resemble traditional foods: Gelatin made from powdered concentrate resembles fruit compotes that are also given to young children. Flavored water, moreover, is a traditional beverage that many consider to be healthy because it is homemade and has fruit in addition to sugar. This indicates that there is a need to fill nutritional knowledge gaps to empower them to make decisions that align with their values and goals.

Parents of children aged 6-19

Parents of older children expressed concern about their child's nutrition by focusing on the variety of foods that a child ate more than the types of foods eaten. They also expressed concern about moderation in food and beverage choices, although they had a wide range of understandings about what moderation means. Several parents said that they do not drink carbonated sugar-sweetened beverages frequently, while sharing that they drink these beverages on a weekly basis of one to three times per week. This suggests that there may be an anchoring effect influencing this understanding of moderation: For instance, they may consider drinking carbonated sugar-sweetened beverages daily to be frequent and on which they "anchor" or base their understanding of moderation.

Attitudes and Perceptions about the Meaning of Health and Good Nutrition

Adolescents, aged 14-16

Adolescents tended to think that poor health was a possibility if they ate foods of low nutritional quality. Most, however, also thought that poor health was something that they could experience in the distant future and over which they would need to be concerned later in their lives. This suggests that the concept of health for many of them is abstract. For this reason, they may tend to undervalue the effects of eating foods of low nutritional value in the short term.

Parents of children aged 0-5

Parents of young children aged 0-5 years expressed a fair to high level of knowledge about nutrition and healthy eating. When asked the question about which foods they consider to be "healthy", nearly all mothers were able to cite fruits and vegetables as healthy foods. Parents frequently stressed the importance of teaching their children to eat a wide variety of foods by introducing them to many foods at a young age.

Parents in both rural and urban areas judged healthfulness based on a person's energy and whether their body size fell within normal ranges for their community. Several parents, particularly in urban areas, said that they felt that people in their communities had a misconception that thinness equates to health and that they should rely on healthcare providers for guidance on what is a healthy weight for their child.

Parents of children aged 6-19

Parents of older children similarly considered health to be based on whether a person's body size fell within a normal range for their community. Several parents said that they also thought that a person's skin could reveal their health: Many said that they considered skin blemishes to be a sign of ill health comparable to "blackened" or ashen skin. They also considered white teeth to be a sign of good health. This suggests that many people may anchor their understanding of health on aesthetic conceptions of beauty and cosmetic features of a person's body, as neither blemishes nor yellowed teeth necessarily indicate poor health.

Moreover, parents in both urban and rural areas where the study was conducted shared that they considered exercise to be an important part of health. However, parents in both areas and especially in rural areas, expressed that they felt they and their families could exercise more. For instance, one father from a focus group discussion in a rural community shared, "We should make more exercise because we are leading a more sedentary life." Another father from a rural community in Oaxaca also shared that he and his family exercised little and, for this reason, they tried to limit their consumption of foods rich in fat and to eat foods rich in carbohydrates instead. While he did not indicate the barrier to exercise, this indicates that there are likely infrastructural barriers to exercise. To this end, one father suggested that creating more green spaces could increase people's opportunities to exercise and practice sports.

Perceptions about Body Image

In consideration of the socio-emotional wellbeing of study participants, they were asked a series of questions about body image via an online form. This approach aimed to gather information about how they perceive normal and ideal body types and to do so while respecting that this can be an uncomfortable topic to discuss.

To identify some of the ideas and perceptions of body images of men and women, participants reflected on the following scale:

Figure 6 Stunkard Figure Rating Scale (from Stunkard et al. 1983)

Perception of a healthy body of men

Men body types:
Perception of a healthy body vs representation in the community

■ Represents a healthy body   ■ Represents body types in the community
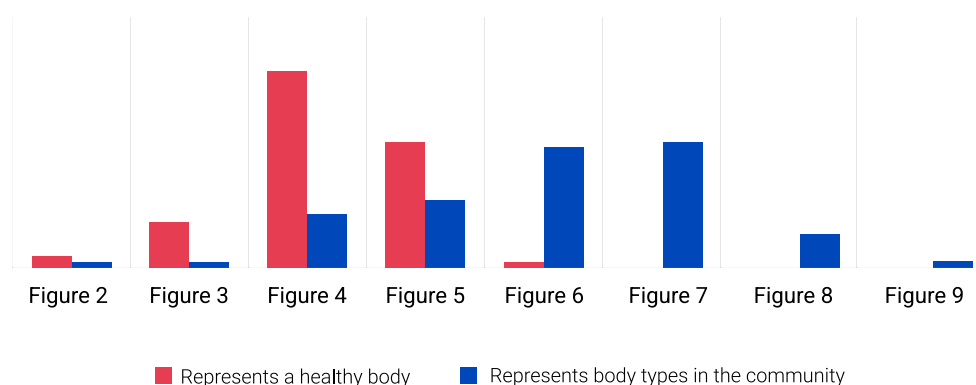
Figure 7 Perception of Healthy Body Type vs. Representation of Body Type in Men

When asked how a healthy man body looks like, most responders chose figures 4 and 5, while when asking how men look in their communities, the average of responses was around figures 6 and 7, recognizing a broader range of body types and some presence of obesity and overweight in their surroundings.

Perception of a healthy body of women

Women body types:
Perception of a healthy body vs representation in the community

Represents a healthy body   ■ Represents body types in the community
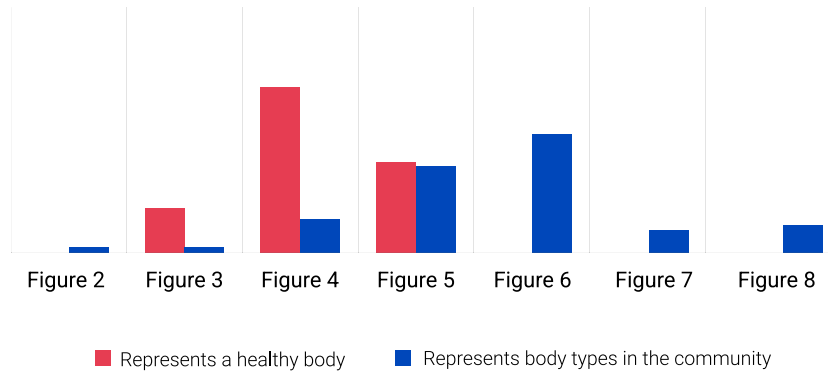
Figure 8 Perception of Healthy Body vs. Representation of Normal Body in Women

The average of the figures showed for types of bodies for women was about 4.12 When participants were asked how a healthy woman body looks like, most considered figure 4 was more representative, while when asking how women look in their communities, responses ranged from figures 5 to 8, recognizing a broader range of body types and some presence of obesity and overweight in their surroundings but slightly lower than the perception for men body types.

Perception of a healthy body of men and women

There is a clear perception of a higher presence of obesity and overweight among men with an a greater difference from the presence of body types, with some degree of obesity among women.

The type of body considered to be healthy was mostly figure 4 both men and women; and more than half of participants considered that there are no differences between bodies for both genders.

■ Some differences   ■ No differences   ■ No answer
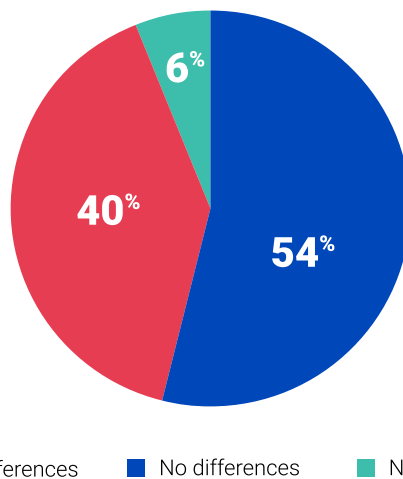
Figure 9 Perceived Gender Differences in Presence of Overweight and Obesity in Community in Mexico

When participants were asked about ways to have and maintain a healthy body, the suggestions they know that were mentioned the most were:

- Having a healthy and balanced diet and eating healthy (with a clear reference to fruits and vegetables and avoiding processed foods and fats).

- Exercising and playing sports.

- Having the habit of drinking water.

- Sleeping and having proper rest.

The following word cloud visualization displays the most common words used when describing healthy behaviors: "drinking water", "having a balanced diet", "sleep", "exercise", "avoid excesses, fats", "junk foods", "eating fruits and vegetables", and "eating healthy".

Figure 10 Word Map Representing Words Commonly Used to Def"ne «Hea"thy» in Mexico

Sociological

Social and Cultural Factors Influencing Diet

Families, Friends, and Social Influence

Across age groups and communities, family was the most important social influence that impacted people's conception of health and nutrition. Conversations with family members, as well as a family member's diagnosis of disease, were often the first ways that people learned about health and disease. For example, several respondents shared that they learned about noncommunicable diseases when their parent was diagnosed with one. This shows that experiences with family members are critical and central to people's knowledge and encounters with health.

Yet conversations and encounters with family members did not always have positive health implications. This pattern was especially clear when respondents' behavior deviated from social norms. For example, one parent said that their children were given carbonated sugar-sweetened beverages at their sister's house, despite their request not to give them carbonated sugar-sweetened beverages. On the one hand, this suggests that the sister is dismissive of her sibling's wishes. On the other hand, it reflects the strength of the social norm—that the barrier to behavior change was higher than the barrier to following a sibling's request.

Most people described serving sweetened beverages and eating out to show affection and care for their family and friends. People from both rural and urban areas warmly associated eating out with recreation and quality time with loved ones. This suggests that the salient aspect of eating these foods and beverages is the ways that it facilities, and the ways that they associate it with, commensality and quality time spent with family.

School and Community Dynamics

Participants shared ambivalent attitudes about their nutrition and health education experiences in school and in their communities. Adults frequently shared that they felt that schools restricted the options that they had to provide lunch and snacks to their children. This suggests that parents may feel resentment toward schools firstly because school nutrition regulations impede on the options that they must make lunch and secondly because they may feel that the way in which regulations are communicated and enforced is overbearing.

Conversely, both adolescents and adults shared that they had generally positive learning experiences of nutrition and health inside the classroom. These experiences tended to be both formative and indelible because they felt included and validated in the programming. Moreover, parents' ambivalence between the experience of learning in the classroom and their experiences of classroom regulation also hints at a tension in authority between teachers and parents, where parents expressed feelings of admonishment and exclusion from teachers rather than collaboration and inclusion.

Environmental

Structural Elements that Affect Diet and Body Image

Mexico's infrastructural, socio-economic, and policy environments contribute to the "macro-environments" that mediate and uphold nutritional social norms, as well as to the country's double burden of malnutrition. The findings below draw from ten key informant interviews as well as from existing literature that contextualizes the main findings from the interviews.

Infrastructural Factors

Free trade agreements shift consumer diets toward industrialized food

The North America Free Trade Agreement (NAFTA), first signed in 1993, and the current United States Mexico Canada Agreement (USMCA), signed in 2020, have alternated the environments in which consumers make food choices in Mexico. Specifically, they have impacted the availability, affordability, and acceptability of food. NAFTA restructured the food environment in three main ways: (1) by incentivizing industrial agriculture, which has led to over 2 million Mexican farmers leaving their farmers; (2) by affecting the prices of farmgate commodities, which led to the increased use of lower priced ingredients; (3) by encouraging product innovation and marketing, which contributed to a rise in the number of differentiated industrialized food products across the country. This has changed the landscape of food across the country and resulted in unintended consequences for consumers. While the current USMCA adopts a principle of science-based risk management, rather than prevention, the economic restructuring has contributed to fundamental changes the consumption of food; as well as contributed to Mexico's epidemic of noncommunicable metabolic disease.

Mexican urbanicity is correlated with less physical activity

While noncommunicable disease risks exist in both rural and urban parts of Mexico, residents in rural areas tend to lead more active lifestyles . This differs from the effects of urbanization in other large cities, e.g., in the United States and Europe, where urbanicity is often correlated with increased activity. Approximately 80% of Mexico's population lives in urban areas. Mexico City alone is the largest city in North America and its metropolitan area is home to nearly 22 million. In addition to eating behavior and physical activity, several underlying factors related to urbanicity affect population health. These include a high concentration of street vendors and low rates of active commuting (e.g., cycling and walking). The lack of active lifestyles is driven by numerous factors, which include a lack of time, few green spaces, and crime-related security, particularly for people living in under-resourced and impoverished parts of the city. The cumulative result is that Mexico's urban environments can impede physical activity, which contributes to noncommunicable disease.

Geographic remoteness increases difficulty of accessing social support

People living in remote parts of the country also face distinct challenges that can compound the challenges of existing disparities. Most of Mexico's Indigenous people live in rural areas and have significantly less social or economic mobility than non-Indigenous people. Moreover, racialized and ethnicity-based discrimination of Indigenous people provides an incentive for geographic isolation, just as it impedes social mobility. Corollary to this, many people rely on state-sponsored social and economic support, which is more expensive and difficult for the government to reach. The consequence is that geographic remoteness can contribute to socio-economic disparities that influence overall population health.

Socio-economic factors

Cost of Food

In Mexico, food inflation reached an all-time high in March 2022 of nearly 13%. This impacts the foods that people can afford. The foods most affected include corn, wheat, and legumes, which are staples of the Mexican diet. This economic situation compounds the financial scarcity that many people experience every day. It also contributes to staple and nutrient-dense foods becoming unaffordable for many people.

Cultural, Ethnic and Linguistic Marginalization

While the study focuses on norms in general, rather than in specific communities, it is important to note that social stratification can increase people's likelihood of experiencing food insecurity and the double burden of malnutrition. People belonging to Indigenous communities often speak languages other than Spanish as their primary or only language. The lack of resources and localization of health programming into these languages constitutes a barrier to the meaningful engagement of Indigenous communities. Importantly, normative standards of the government about what constitutes nutrition and health do not always align with metrics , e.g., eating from an individual plate with a fork and knife versus from a shared plate or pot with utensils or hands, that people in Indigenous communities use and they can sometimes exclude foods that are familiar to people in Indigenous communities. This form of cultural and linguistic marginalization constitutes a barrier to Indigenous people's full and meaningful engagement with public health programs.

Policy and regulatory factors

Implementation of public policies and regulation

The primary policy challenges that people cited in interviews is the lack of a consistent, coordinated, and multi-sectoral approach to preventing noncommunicable diseases across Mexico. A consistent theme in the conversations was the gap between a nutrition policy existing on paper and in practice. For instance, while schools may be expected to align with national nutrition guidelines, the on the ground realities of economic austerity measures and underfunding mean that both implementation and monitoring are difficult to achieve. Moreover, another challenge to preventing noncommunicable diseases is the lack of agreement between industry interests and public health objectives, which constitutes a barrier to the development and implementation of public policy interventions to promote population health.

Summary:
Key Findings by
BDM Level

This chapter aimed to describe the main types of food that people in urban and rural parts of Mexico eat on a typical day and to contextualize the findings within people's micro- and macro- environments of family and friends, as well as their choice environments. The findings show that many people in both urban and rural regions make decisions in conditions of regular financial scarcity and that their choice and social environments encourage the consumption of processed and sugar-sweetened beverages and foods because they are easily accessible and given to others as a form of care or affection. The table below summarizes the main social norms that emerged from the focus group discussions.

Factors	Key Findings	Description
Psychology		
Habit	Most people ate snacks regularly to fill "cravings", which were usually foods that were sodium and sugar rich.	The tendency to eat sugar-sweetened or sodium rich foods for snacks demonstrates that eating these types of foods is a **habitual way** that people satiate cravings.
Cognitive bias	While most people emphasized that "moderation" was key to achieving and maintaining health, they tended to exercise more restraint in theory than they were when experiencing a craving or presented with a choice.	The tendency to practice more restraint in theory than in practice demonstrates **restraint bias**, where people overestimate their control over impulsive decisions.
Cognitive bias	The widely held definition of healthy foods being "homemade" and unhealthy foods being store-bought contributes to many people considering homemade sugar-sweetened foods and beverages, e.g., sugar-sweetened flavored water and gelatin, to be nutritious.	This definition of healthy as being "homemade" contributes to **salience bias**, where the negative effects of consuming sugar-sweetened foods that a person makes at home are considered healthful.
Cognitive bias	Many people associated eating out is a form of leisure and recreation with family, as well to reward for oneself or a loved one as an expression of care and love.	This association of eating out with leisure, recreation and expressing affection contributes to **nostalgia effect** where the positive memories of the past drive impulses, habits, and desires in the present.
Cognitive bias	Adolescents, especially adolescent boys, often associated eating out with friends and or buying foods independently at convenience stores with social independence.	This demonstrates a type of **affect bias** because the positive associations of independence through can drive adolescents' purchasing of food at food vendors and convenience stores.
Self-efficacy	Adults in urban areas frequently described feeling incapable of changing the socio-economic circumstances of their ability to buy more vegetables.	While this reflects a structural barrier, it also reflects an emotional experience where people feel disempowered, or lacking in **self-efficacy**, regarding their ability to change their health circumstances.
Self-efficacy	Many adults in rural areas, and occasionally in urban areas, described growing foods at home to save money and increase their consumption of fruits and vegetables.	Their feeling of capability, or **self-efficacy**, to increase the availability of fruits and vegetables at home is driven by their knowledge and the greater opportunities to garden in rural areas. Gardening is a familiar practice for many people and can learning to grow better foods locally can be shared.
Intent	Affordability, quality, and proximity were the three main qualities that guided people's food purchasing decisions.	This finding shows that participants considered the balance of these three qualities to be an **intention** of frugal shopping.
Intent	Participants expressed that consuming a "balanced" diet, resting, and drinking plain water were fundamental to healthfulness.	This finding shows that many people consider "balance" to be an **intent** and an outcome of health.
Interest and attitudes	Affordability, quality, and proximity were the three main qualities that guided people's food purchasing decisions.	This finding shows that participants valued the balance of these three qualities and were **interested** to purchase foods that they felt represented all three characteristics.
Sociology		
Social Influence	The habits of adults and older children consuming carbonated sugar-sweetened beverages around young children contributed to their interest and curiosity to try	The visibility and availability of carbonated sugar-sweetened beverages and their consumption by parents and older siblings was a **social influence** on children's desire to try carbonated sugar-sweetened beverages.
Social Influence	In many families, people learned to consume carbonated sugar-sweetened beverages either plain, with lemon or sodium bicarbonate, or boiled into a syrup when they felt faint or had indigestion.	Most people learned to use carbonated sugar-sweetened beverages in remedial ways from people in their family, showing that household practices are a form of **social influence** that drives behaviors.
Social Influence	Family was the first place where people acquired health knowledge and it was the place where knowledge about disease and disease prevention became salient, e.g., through the illness of a family member.	The conversations with family and friends were a form of **social influence** because these were important moments of education and socialization about health.
Community Dynamic	Growing and sharing local foods are ways that people build community and relationships.	Sharing produce creates an opportunity for family or community members to visit each other, to build a relationship, and potentially to teach farming practices.
Gender Norms	Women in their households are the main people responsible for food decision making, ingredient procurement, and meal cooking and serving.	The expectation of women and adolescent girls to be responsible for household labor and meal preparation indicates that there is a **gender norm** where women are expected to be responsible for this work while men and adolescent boys are not.
Gender Norms	Men in both urban and rural areas were more often the people who initiated and decided whether their families would go out to eat.	The greater frequency by which men took the initiative to make decisions about treating their families to go out to eat shows a **gender norm** where men are more often the people who make decisions about recreation and spending money.
Meta Norm	Most people considered thin bodies to be healthier than larger bodies but felt that most people in their communities had larger bodies.	While most people had larger bodies in the communities where participants lived, most people considered thin bodies to be healthier than larger bodies, showing a meta norm in which thinness is considered demonstrative of health.
Environment		
Communication environment	Parents expressed that they often felt excluded and reprimanded by school educators when implementing nutrition programs because they were told that the snacks provided were not allowed.	This finding shows that the **communication environment** at schools and the implementation of school regulations can make parents feel blamed and reprimanded for feeing their children certain types of snacks.
Infrastructural barrier	Adolescents expressed that they often found school nutrition education memorable and that they felt included in the programming, rather than excluded or reprimanded	This finding shows that, conversely to that of parents, the school **communication environment** for students makes them feel welcomed and included in conversations about health.
Governing entities	A consistent theme in conversations with stakeholders was the gap between a nutrition policy existing on paper and in practice.	This finding shows that among **governing entities** there is a lack of consistent, coordinated, and multi-sectoral approach to implementing policies.
Infrastructural drivers	Changes to Mexico's landscape of processed foods driven by free trade agreements (e.g., NAFTA and USMCA) have shifted consumer diets have increased the availability and affordability of processed foods.	This change to the food landscape of Mexico is an **infrastructural driver** of behavior because it creates a choice environment where both nutrient rich and nutrient low foods are accessible and affordable.
Infrastructural barriers	Mexican urbanicity is correlated with less physical activity than in rural areas and less physical activity than in cities across North America and Europe	Mexico's cities create **infrastructural barriers** to increasing physical activity due to the lack of green spaces, crime-related security, high concentration of street vendors, and limited transportation infrastructure for active commuting (e.g., cycling and walking), and the long distances that people commute to reach their place of work or home.

Table 19 Summary of Key Findings from Mexico study

Conclusion

This chapter documents the main social norms observed around nutrition and body image in Mexico. The findings show that socio-economic and environmental factors, such as the affordability, availability, and accessibility of foods and the swampification of food environments, interact with behavioral and sociological factors that influence the foods that people choose to eat and that contribute to normative behaviors and practices.

At the individual level, behavioral factors impact decision making and preferences for certain foods. For example, one of the main behavioral findings is that habit influences what people eat to fill "cravings". This indicates that people likely reach for snack foods that are familiar and that they regularly consume. One of the themes that many participants shared is that "moderation" of unhealthy foods is critical to achieving health. However, participants also appeared to exercise more moderation in theory than in practice when presented with a choice. This demonstrates that restraint bias, or the tendency to overestimate one's control over decisions made on impulse, influences individuals' decision making.

Most participants in the study regularly experienced financial scarcity and food insecurity, and they regularly limited their food intake to essential items, which were often protein and carbohydrate rich foods. In urban areas, many people ate two meals per day and focused their purchases on carbohydrate and protein rich foods (e.g., beans, rice, and tortillas) that they considered necessary. In rural areas, most people ate three meals per day, but had a consistent attention on the affordability of ingredients. In both areas, they typically ate a variety of fruits and vegetables, although people in urban areas were more likely to say that they limited their produce intake and incorporated fruits and vegetables for flavor and texture. Moreover, several people in urban areas said that they had limited their purchases of foods like lime, which are an important ingredient of many Mexican cuisines, because the cost was a barrier. In both areas, people frequently ate snacks, which often consisted of sugar-sweetened, sodium-rich and ultra-processed foods. They described these as foods that they ate to satiate cravings, either at home or while outside their homes.

Drinking sugar-sweetened beverages is a norm in both urban and rural areas, and it is driven by the environmental availability of these beverages and the population association of these beverages with wellbeing. Infrastructural factors like lack of consistent access to potable water and the higher cost of water in comparison to industrialized beverages likely contribute to this norm. However, in focus group discussions participants tended to focus on the ways that they associated sugar-sweetened beverages with wellbeing, which shows that the association with wellbeing is the main social driver of this norm. For example, several mothers described making fruit and flower-infused beverages as an act of care for their families. Many people also associated drinking carbonated sugar-sweetened beverages as a reward for hard work. Moreover, many people hard strong brand preferences and generally preferred to drink one or two brands rather than a variety of branded beverages. Children also regularly consumed carbonated sugar-sweetened beverages, which they typically started consuming around the age of two or three years.

Most people considered carbonated sugar-sweetened beverages to be unhealthy and important to limit, if not avoid, and they distinguished between "homemade" and store-bought foods and beverages. They considered homemade foods to be healthy, while they considered store-bought foods to be unhealthy. For this reason, many people considered homemade sugar-sweetened flavored water, either made at home from a store-bought sachet of sugar-sweetened powder or made from fresh fruits, to be healthy. While this metric can be useful, it can skew their perception about the healthfulness of sugar-sweetened foods. These findings show that discursive constructions create and influence normative beliefs about the nutritional qualities of foods.

Gender norms across both urban and rural parts of Mexico were also driven by social influence and discursive factors in people's environments. In nearly all households, meal preparation was considered the responsibility of women, along with household work. While men and adolescent boys sometimes helped to serve food, they did not appear to be expected to participate like adolescent girls were expected to participate. When men and boys participated, they referred to their participation as help rather than as responsibility. Underscoring this, economic need was the main driver of their regular participation, such as when one made taught himself to cook during his unemployment. Moreover, several men said that they like to give their wives a break on Sundays from doing household work by going out to buy food at food stands. This underscores the strength of this gender norm that meal preparation is considered women's work.

Norms about health were driven by factors of social influence people's families and communities. The types of conversations that people had about health with family members and people in their communities were a critical form of social influence that impacted how they conceptualized and understood health. Most people considered thin bodies to be healthier than larger bodies, but that most people in their communities had larger bodies. This norm was driven by people's conception of the importance of having a balanced diet, eliminating "junk" food, exercising, sleeping, and drinking water. The similarity in men and women's body sizes indicates that the drivers of weight gain and high weight are likely environmental and linked to structural factors, e.g., work and low socio-economic status, that limit their ability to have time and resources to do these things. Furthermore, their focus on behaviors as the social determinant of healthfulness suggests that they consider health to be the responsibility of individuals, rather than a status that is determined by structural factors. While the study does not engage with self-concept, this finding suggests that there may be stigma associated with poor health outcomes and that individuals may feel personally at fault.

Mexico's urbanicity presents distinct challenges to physical activity, body weight management, and positive health outcomes. The country's urbanization is correlated with decreased physical activity, in comparison to people in rural areas of Mexico and converse to trends of cities leading to increased physical activity in the United States and Europe. Driving this outcome are factors like the high concentration of street vendors, which the density of which is correlated corresponding increases and decreases in a community's average body mass index; the low rates of active commuting (e.g., walking and cycling) in the city; as well as other factors like lack of time, few green spaces, and crime-related security risks. These factors contribute to an environment where physical activity is difficult to achieve.

Socio-economic factors created structural vulnerabilities that inequitably impact health outcomes for people in less socio-economically advantaged communities. These structural factors include free trade agreements, e.g., the former North American Free Trade Agreement and the current United States Mexico Canada Agreement, which have transformed Mexico's agricultural economy toward industrialized monoculture, industrialized food, and lowered rates of local food production. This type of farming has outpriced small scale farmers, many of whom have migrated to cities. Moreover, as numerous stakeholders noted, Mexico has numerous health policies on paper, there are fewer that are implemented in practice. This contributes to an environment where public health measures do not get operationalized.

At the same time, geographic remoteness, and cultural, ethnic and linguistic marginalization of people from Indigenous and Black communities create barriers to accessing competent and localized health, social, and public services. These factors contribute to an overall environment where some people are predisposed to worse health and social outcomes than others. It is important to account for socio-cultural diversity in health policies because increases the meaningful engagement of diverse communities across the country.

This chapter has aimed to consider the social norms and the contexts in which norms emerge through a processual perspective. It documents the social norms that emerged in participants conversations about their perspectives on food and body image in Mexico, and it also documents the psychological, sociological, and environmental factors that drive these norms. It does so with the intention of elucidating and describing the many intersecting factors that contribute to the country's double burden of malnutrition. This perspective and the findings of this study emphasize that there are numerous factors that drive these norms, and that there are also numerous opportunities to promote health and wellbeing in and with communities across Mexico.
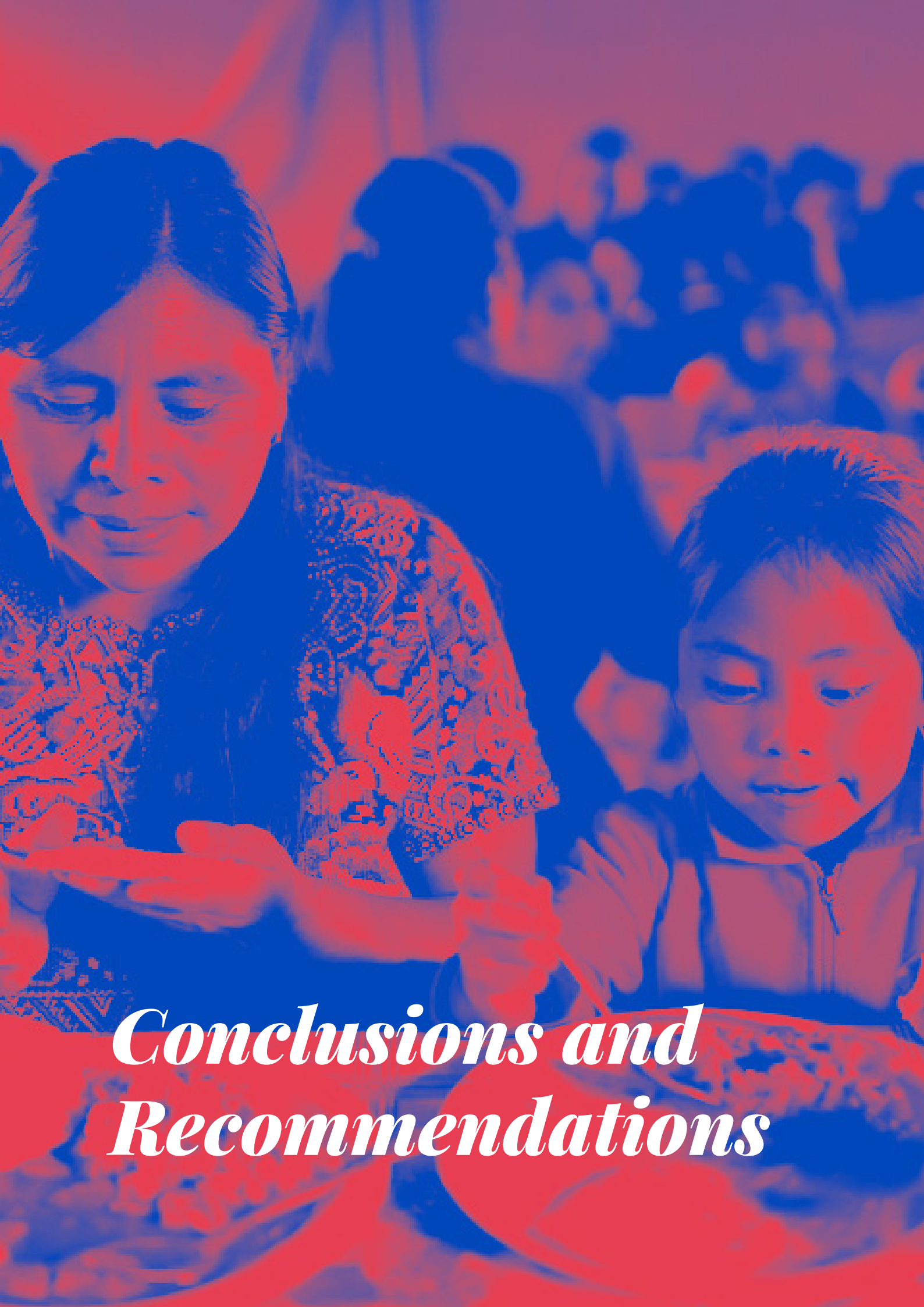
Conclusions and Recommendations

Conclusion

The findings of this report show that the foods that people consider to be affordable, acceptable, accessible, and aspirational are driven primarily by environmental and social factors that influence individual psychological characteristics.The environments in which participants live facilitate decisions to eat ultra-processed foods and to exercise irregularly. The built infrastructure, from roads to sidewalks, and structural factors of food policies and regulatory frameworks created friction in accessing nutrition-rich foods and exercising. At the sociological level, conversations and social influences at home and in people's communities are strong indicators of the dietary practices and the attitudes about body size that people have, as well as of the beliefs about health that they hold. At the individual and social levels, as people adopt similar habits and ways of thinking about food and health, these attitudes become shared social norms within families, communities, and groups of people.

Across the study groups in Colombia, Guatemala, and Mexico, the study found that behavioral factors of cognitive biases influenced food decision making. Many people in Colombia and Mexico, for example, use a "rule of thumb" to decide whether foods were healthy or not. In Colombia, many people in the study considered "artificial" foods to be unhealthy and "natural" foods to be healthy. Similarly, in Mexico many people in the study distinguished between "homemade" and "store-bought" foods when determining the nutritional quality of foods. While this heuristic was often useful, it could also obscure the ways that some "natural" or "homemade" foods, e.g., fruit juice, fruit gelatin, or sugar-sweetened water, had low nutritional values. These factors contributed to salience bias, or the tendency to focus on prominent information to the exclusion of information that is less prominent but similarly important, such as the fact that some natural or homemade foods may also have few nutrients. Furthermore, in Guatemala, the findings showed that salience bias also impacted when parents spoke to their children about health and nutrition: many parents and adolescents in the study shared that they talked about nutrition and the health impact of processed foods and beverages after children had begun consuming them regularly. This suggests that for many parents and adolescents in the Guatemala study, the topic of health may become salient after they perceive there to be an increased possibility of a negative outcome.

Emotion was also an important behavioral factor that influenced decision making. For example, among study participants in Colombia, purchasing CSBs was often considered a sign of economic wellbeing, particularly in rural areas. This suggests that purchasing CSBs can be aspirational because it enhances consumers' self-concept about their economic status or others' perception of it. Similarly, nostalgia and affect also played a role in the ways that study participants in all three countries made decisions about food. For instance, eating out evoked for many participants positive memories and associations of spending time with loved ones. These types of emotions could impact the decision to eat out or eat certain foods in the present.

Feelings of low self-efficacy, belief in one's ability to reach a specific goal, were also shared by participants in all three country studies. In both Colombia and Mexico, participants in urban areas shared that they often felt incapable of affording a wide variety of fruits and vegetables, while participants in rural areas shared that they felt more capable of including these foods in their diets. Among study participants in Guatemala, many were ambivalent about their ability to prevent diabetes in themselves and their families despite it being something about which many participants expressed concern. This indicates that many participants are motivated to promote their health and that of their families, but that they can lack the resources or support to facilitates their capability and opportunity for strengthened health self-efficacy.

In addition to behavioral factors, the social influence of families, friends, and communities were important ways that people adopted habits, learned about health, and where health topics became salient. In all three country studies, participants shared that they often learned about remedial uses for CSBs at home and that they associated homemade beverages with wellness. These beverages included CSB, fruit-infused sugar-sweetened beverages, panela water, and hot chocolate. Moreover, in Guatemala, several study participants shared that young children in their families drank caffeinated coffee beverages because it was a norm in their families and communities. Participants shard that they learned about drinking CSB for remedial purposes, especially for indigestion, faintness and, among participants in Guatemala, occasionally also for common colds, from family members. This shows that the norms and attitudes in people's social environments contribute to patterns and beliefs around health and beverage consumption.

Participants in all three country studies shared similar attitudes about body image and size, which suggests that there is a shared norm across the countries. Most participants considered smaller bodies on the Stunkard scale to be a sign of health in both men and women, although this differed from the typical body sizes that they saw in their communities. While perceptions in general about healthy body sizes were smaller than the sizes considered normal, this finding was particularly evident in the comparison of the body sizes of women: across all three countries, participants considered sizes 3 to 5 to be "healthy" for women but tended to rank sizes 5 to 7 as "normal" for women. This finding indicates that most women may have larger bodies than what people consider to be "healthy", and it suggests that women may experience more social pressure to have smaller or thinner bodies than what is considered normal in their communities.

Environmental factors including infrastructural, socio-economic, and regulatory factors were also important in affecting the accessibility and affordability of foods and the ways that people conceptualize health. For one, infrastructural factors like limited road infrastructure, political insecurity, and the privatization of natural resources could negatively impact local food production and food transportation. For another, limited pedestrian infrastructure could impact people's ability to exercise or actively commute to and from work, particularly in urban areas of Mexico. Furthermore, the governmental practice, particularly in Mexico and Guatemala, of implementing short-term health policies led by the executive branch contributes to inconsistency in health messaging, funding, and politics.

Recommendations

MAGENTA recommends social and behavior change interventions that address the environmental and sociological drivers of dietary habits contributing to overweight and negative perceptions about body size and that are in line with diets and practices to support optimal nutrition, growth, and development. Such interventions address the root causes contributing overweight, obesity, and nutrition-related noncommunicable diseases by creating environments and social contexts that make health-forward decisions easy, accessible, social, and timely. MAGENTA's recommendations are organized by environmental, sociological, and psychological driver to facilitate reference against the findings.

Environmental Level

Develop governing instruments to regulate exposure and access to ultra-processed foods and beverages and expand food policy initiatives.

Recommendations directed to the public sector:

- Generate health and food policies free of conflict of interest by the industry, including the regulation of the availability of ultra-processed food and beverages, especially in schools and nurseries.
- Create or reinforce the necessary legal instruments (laws, rules, regulations) to guarantee the right of the population, especially children, to continuous and sufficient drinking water and healthy eating, especially in the most vulnerable groups of the population.
- Generate pertinent regulatory instruments free of conflict of interest, to guarantee and monitor the sale and distribution of healthy and sustainable food in schools and childcare centers.
- Ensure financing for actions or interventions that promote healthy and sustainable nutrition and physical activity.

Recommendations directed to the public sector and UNICEF regional and country offices:

- Promote coordination between institutions to address the problem of malnutrition in all its forms, through a common agenda between government agencies, health organizations, the media, industry, and civil society organizations.

Create and promote built infrastructure that facilitates health-forward decisions.

Recommendations directed to the public sector:

- Ensure the availability of drinking water for consumption in communities, health facilities, schools, nurseries, and homes.

Recommendation directed to the public and private sectors:

- Create, improve parks and public sports spaces for the practice of physical activity and healthy and sustainable eating.

Recommendation directed to the public sector and UNICEF country and regional offices:

- Expand and scale existing UN programming for planting school vegetable gardens at elementary and secondary schools.
- Implement intersectoral strategies to transform educational centers to promote healthy and sustainable nutrition and hydration and physical activity for children and adolescents.

Incorporate structural enablers of health-forward decisions by reducing exposure to ultra-processed foods in school settings and increasing access to physical exercise and active commuting.

Recommendations directed to the public sector:

- Reduce the availability of sugar-sweetened beverages in nurseries and schools and consider the prohibition of this type of food in schools.
- Promote healthy and safe environments for exercise in schools and local communities.

Recommendation directed to the public and private sectors:

- Frame healthy food options to be attractive to food decision makers: Reframe school menus to nudge nutritious decisions.

Sociological Level

Foster public discourses and community dynamics that promote nutrition-forward and body-neutral conversations around health.

Recommendations directed to UNICEF regional and country offices:

- Carry out communication campaigns focused on behavioral changes, based on formative research, to promote public discourses among the population about what a healthy and sustainable diet is, emphasizing the most relevant messages for each country.
- Carry out communication campaigns focused on body neutrality and self-empowerment, based on formative research, to promote public discourses among the population about what is a healthy body and about how thinness and perceptions about thinness is not equivalent to health

Recommendations directed to the public sector and UNICEF country offices:

- Implement communication strategies through mass media in indigenous languages to promote healthy and sustainable eating, favoring the consumption of locally produced food.
- Built capability programs among teachers and health personnel dedicated to promoting healthy and sustainable eating so that they can be information channels for students and patients.

Promote gender equality and increase men and adolescent boy's engagement in meal preparation and in creating healthy habits early and often at home.

Recommendations directed to UNICEF regional and country offices:

- Promote gender equality in food programs, such as by developing campaigns and targeting programming for men and adolescent boys that promote gender equality in the purchase, preparation and serving, dish washing, etc. and other activities related to food.
- Highlight the importance of the role model of parents in the formation of healthy habits in children and create capability-building programming for men and adolescent boys to create gender-neutral associations with health, nutrition, and household labor.

Psychological Level

Increase interest, positive associations, and cultural identification with nutritionally rich foods.

Recommendations directed to UNICEF country offices:

- Develop a social marketing campaign that evokes emotions, feelings and traditions related to healthy eating and emphasizes preparing and sharing meals together as a form of affection.
  - Incorporate messages into social marketing that highlight how it was celebrated in past decades, with traditions, with the family, with homemade food, family recipes, etc.
  - Show physical activity in family, as a way of showing love, recreation etc. Recreation and love not only linked to food.

Recommendations directed to UNICEF country offices:

- Create a social marketing campaign that shows how consuming fruits and vegetables is not necessarily more expensive, that highlights the "price" or barriers of soft drinks in terms of health risks and environmental pollution and that highlights the benefits of consuming plain water.
  - Augment existing or develop social marketing campaign that emphasizes helpful heuristics to use when determining whether a food is nutritionally rich and that can bring attention to the ways that "natural" or "homemade" foods are not always nutritionally rich.
  - Highlight the consumption of seasonal and local fruits and vegetables as a strategy to reduce costs.
    - **In Colombia**: Recognize that natural food is better than ultra-processed food, but that natural food is not always nutritious, for example a natural juice with a lot of sugar.
    - **In Guatemala**: Conduct a campaign about what ultra-processed foods are, their health risks, among others.
    - **In Mexico**: Recognize that homemade is always better, but adding lots of cream, fat, and sugar to homemade foods also makes them less nutritious.

Increase interest, positive associations, and cultural identification with nutritionally rich foods.

Recommendations directed to the public sector and UNICEF country offices:

- Develop educational programs, such as culinary workshops or a food-centered mobile application, that increase adults' and adolescents' capability to include nutrition-rich foods and beverages a part of their daily habits and to identify satisfying alternatives to nutrition-poor foods and beverages.
- Develop social programming that makes physical exercise easy, accessible, social, and timely and dismantles barriers to exercising regularly through social exercise groups, e.g., hiking, running, yoga, and sports, in local parks and community centers and programs aimed toward gender inclusion and increasing participation among people less likely to be.

Annex A

Literature Review Articles

Psychological

Knowledge, Attitudes, and Self-Efficacy

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Sociological

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Annex B

Sampling Methods

The qualitative data collection used remote Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) to collect data across a wide range of locations and demographics. Participants were selected via snowball sampling, using the professional networks of the data collection team. Considering restrictions applied due to the second wave of COVID-19, all data collection was conducted remotely.

This Study and its tools were originally developed for onsite, in person Focus Group Discussions and Key Informant Interviews. However, given the rapidly changing circumstances with the Covid-19 pandemic and the transmissibility of the new variants, MAGENTA reassessed the health risks of implementing in person discussions for both the participants and moderators. For the safety of participants and moderators, both UNICEF LACRO and MAGENTA agreed to switch to remote methods of data collection. The allocated budget allowed us to conduct all 36 FGDs and 32 KIIs. Had the Focus Groups Discussions been face-to-face, the sample of respondents would have been smaller, given the higher costs faced in the selected countries.

Besides the 10 preliminary or initial stakeholder consultations conducted by MAGENTA; 32 KIIs were held with policy makers and other key stakeholders at the national and local levels and included representatives from government ministries, international and national agencies, non-governmental organizations, civil society, and child nutrition experts, and community leaders. These interviews provided a holistic understanding of the policy and structural environment, and explored the questions detailed in the guidelines relevant to policy, programming, and service provision. All KIIs followed the interview frameworks prepared to ensure that key areas of enquiry were captured, and to allow for thematic analysis across data sources, and participants to guide the direction of each interview according to their priorities.

KIIs	Policy Makers	Education sector	CSO	Private sector	Media	Academia	Total
Colombia	2	2	2	2	1	1	10
Guatemala	2	2	2	2	1	1	10
Mexico	2	2	2	2	1	1	10
Total	6	6	6	6	3	3	30

Table 20: Initial KIIs sample

The disaggregation of the institutions considered for the KIIs can be found in the following table:

KIIs	Policy Makers	Education sector	CSO	Private sector	Media	Academia
Colombia (11)	1. Directorate of Nutrition of the Colombian Family Welfare Institute (ICBF) 2. Subdirectorate of Nutritional Health, Food and Beverages, of the Directorate of Promotion and Prevention of the Ministry of Health of Colombia	3. Ministry of Education of Colombia 4. Colombian Institute of Antropology and History 5. National Indigenous Organization of Colombia	5. Red Papaz 6. Educar consumidores	7. National Association of Business People of Colombia (ANDI) 8. Educar Consumidores 9. Ardila Lulle Organization (OAL)	10. Caracol TV	11. National University of Colombia

Guatemala (11)	1. Secretariat of Food and Nutritional Security (SESAN) of the Government of Guatemala 2. Ministry of Public Health and Social Assistance	3. Ministry of Education of Guatemala 4. Social Consultation and Participation Instance (INCOPAS)	5. Fundebase - Fundación para el Desarrollo y Fortalecimiento de las Organizaciones de Base 6. Organization for Women in Science in the Developing World 7. Observatorio del Derecho a la Alimentación	8. Agropecuaria Popoyan 9. United Way	10. Radio y Televisión de Guatemala	11. Institute of Nutrition of Central America and Panama (INCAP)
Mexico (10)	1. Undersecretariat of Health Promotion and Prevention, of the Ministry of Health 2. Mexican Institute of Social Security (IMSS)	3. Ministry of Public Education 4. Teacher/ Principal of a school (from Kidergarden to high school)	5. Poder del Consumidor (leads the Alliance for Food & Health) 6. Salud Crítica (leads the ContraPESO coalition)	7. Mexican Council of the Consumer Products Industry (ConMéxico) 8. National Association of Producers of Soft Drinks and Carbonated Waters (ANPRAC)	9. Marketing, Televisa	10. National Institute of Public Health (INSP)
Total (32)	6	7	7	7	3	3

Table 21: Key Informant Interviews institutions

Focus groups were conducted in rural and urban areas, with an aim of approximately equivalent gender representation, based on participants' self-identification. The sample was purposively selected, and demographic details were considered to allow for the disaggregation of data and triangulation with existing data (i.e., gender, age, urban / rural locality, and socio-economic status).

The FGD respondents were recruited from locations where access to internet was prevalent to prevent a selection bias. The sampling is shown in the table below.

FGDs		Mexico		Colombia		Guatemala		Total
Groups	Gender	Urban	Rural	Urban	Rural	Urban	Rural	
Mothers/caregivers of children aged 0-5 years	Women	1	1	1	1	1	1	6
Mothers/caregivers of children aged 5-19 years	Women	1	1	1	1	1	1	6
Fathers/caregivers of children aged 0-5 years	Men	1	1	1	1	1	1	6
Fathers/caregivers of children and adolescents aged 5 - 19 years	Men	1	1	1	1	1	1	6
Adolescents aged 14-16 years	Girls	1	1	1	1	1	1	6
	Boys	1	1	1	1	1	1	6
Total		6	6	6	6	6	6	36

Table 22: Focus Group Discussions sample

Annex C

Ethics Consideration

The following measures were based on the ethics protocol originally presented from MAGENTA for this Study, and also on the ethics approval received by Health Media Lab, Inc. for the conduction of the project in Mexico and Colombia, and from Latin Ethics for its conduction in Guatemala.

As part of their training, all researchers and moderators were provided with guidelines and protocols to ensure the protection and dignity of respondents/participants is always maintained. These guidelines considered that the factors that influence body weight are complex and include genetics, epigenetics, the environment, societal factors and medications. This to avoid weight bias and obesity stigma which are usually rooted in the misconception that body weight is easily controlled by making changes to the diet and physical activity levels.

In terms of ethics and ensuring a human-rights based approach, the research team payed particular attention to gender and equity, making sure that these three aspects are considered throughout the whole research process, including during data collection and analysis, the development of findings, conclusions, and recommendations. The study aligned with UNICEF's Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis (2015). The methodology and research tools will be shared with the UNICEF for guidance and validation before the start of the study and was approved.

The guidelines covered the appropriate protocol related to recruitment, prior parental consent, dissemination of reports and/or supporting data, and the anonymity or respondents which have already been adopted as part of this methodology statement.

- In the case of minors, the data was collected with the prior consent of one of their parents or guardians, and with prior knowledge of the interests of the study.

- Likewise, the mother, father or guardian signed the consent for the participation of the minor in the Focus Group.

- The communication of the researchers and the operational team with the minor participants was according to their age and level of maturity, always seeking to convey confidence in a friendly and respectful environment.

- It was ensured that all participants in the Focus Groups, as well as minors, did so voluntarily. In particular, the decision was always respected if a minor or their parents or guardians decided not to continue in the session.

- Minors or any participant were not forced to respond or participate in group dynamics. Moderators always looked for ways to encourage free, spontaneous, and voluntary participation.

- For evidence of the online Focus Group, the name and faces on the screenshot were edited to protect the identity of minors. No screenshots with children's faces and names were stored.

- The information or confidential data of the participants was collected, stored, protected, and eliminated in a secure way. This included limiting access to raw identification data through password protection of electronic data, physical lockouts, and restriction of personnel who accessed data.

Prevention and Reporting of Violence Against Children

As part of the research policy of "Do No Harm", all participants in the FGDs received the contact information for at least one social or psychosocial support service provider that is free and publicly accessible in their region. Participants also received the contact information for an online or telephone support service provider.

In case of potential violence against children, the protocol was:

1. The person who identifies the case (recruiter, moderator, etc.) would report the information to the MAGENTA focal person in writing, indicating the event or concern detected and the person's data.

2. The adolescent would be provided with the information for social and psycho-social support services.

3. In the case of that there is acute distress, the MAGENTA focal person would ensure that the service providers or a trusted adult is informed and reaches the adolescent for immediate support provision.

4. The MAGENTA focal person would report the case and follow-up actions taken in writing to the UNICEF project focal person.

5. If further steps needed to be considered to ensure the child's safety, the research team and focal persons would confer with the UNICEF focal person to discuss next steps.

If an adolescent would have disclosed discomfort or distress and wished to receive support the following procedure would have been adopted:

1. Ask the adolescent if we should inform their parent or caregiver and if the answer is yes, we will do so and remain available if they require further support.

2. If the adolescent replies that they do not want their parent or caregiver to be informed, then we will remind the adolescent about the available services and ask if they would need any additional support to access the service.

3. If there is an acute situation or need (e.g., an adolescent expressed an intention for self-harm or extreme distress), then the researchers will ensure that that service providers or a trusted adult is informed and reaches the adolescent for immediate support provision.

Finally, the MAGENTA focal person has remained available weeks after the conclusion of FGDs to provide support to any and all participants if needed.

Consent

The consent of parents and legal guardians for adolescent participation will be obtained over the phone and in writing. By consenting, parents and legal guardians agree for their adolescent child to take part in the research, and they agree to allow the collection of audio recording and anonymized photos, as well as grant permission to use report findings as part of longer-term Monitoring and Evaluation efforts. The photos of participants and any identifying information will be omitted and the personally identifying information will be fully anonymized in the final report.

The consent of adult participants in the study will be obtained over the phone and in writing. By consenting to participate, the adult participants agree to take part in the research, and they agree to allow the collection of audio recording and anonymized photos, as well as grant permission to use report findings as part of longer-term Monitoring and Evaluation efforts. The photos of participants and any identifying information will be omitted and the personally identifying information will be fully anonymized in the final report.

Assent

The assent of adolescent participants will be obtained over the phone and in writing. The assent process will occur after obtaining the consent of parents and legal guardians for adolescents to participate. The process will then proceed to request the assent of adolescents to participate.

By their assent, the adolescent freely and willingly agrees to participate in the research. The adolescents will be informed that their parents or legal guardians have consented for them to participate, but that it is their decision to decide if they wish to participate or not.

By assenting, the adolescent agrees to take part in the research, allow the collection of photos and audio recording, as well as grant permission to use report findings as part of longer-term Monitoring and Evaluation efforts. The photos of participants and any identifying information will be omitted and the personally identifying information will be fully anonymized in the final report.

The following measures were implemented to ensure the quality of the data collection and to preserve the confidentiality and the wellbeing of the participants at each stage of the fieldwork.

Pre-session:

All recruited persons were made aware of the Privacy Notice and were given to sign the Letter of Consent. In the case of adolescent guests, their mother, father, or guardian also signed the document.

Together with the Privacy Notice and the Letter of Consent, the invitees received the list of institutions that provide free and publicly accessible social or psychosocial support in their region. This was a preventive measure in case a possible emotional impact was generated after the group conversation, possible risk situations were detected or if the participants considered that they required accompaniment or counselling on a particular issue.

The recruitment team provided a list of the invited persons, as well as their filters and signed letters of consent. After receiving the list, filters, and signed letters from the invited persons for each group, the Project Leader supervised these materials to ensure that their profile and requirements were covered.

At the start of each session:

The moderator opened the session and was accompanied by the note- taker and the recruiter.After giving access to the participants, the recruiter welcomed them and confirmed that all participants had signed the letter of consent, agreed to the guidelines and were asked if they had any questions.

Likewise, in the case of the groups of mothers, fathers or guardians, the ages of their children were confirmed.

It was reiterated that their participation was voluntary, and a climate of respect and trust was created to facilitate the expression of their opinions. Likewise, the moderators reiterated to the participants that all their opinions would be respected, recorded, and kept in strict confidentiality.

Participants were given the option to use another name during the session. Their consent was sought to start recording the conversation at the end of the presentation.In the notetaking of each Focus Group, the full names and personal details of the participants were not recorded.

During the development of each Focus Group:

The sessions were recorded via the Google Meet platform and additionally a back-up audio recording was made. Both recordings started after the presentation of the participants.

As mentioned above, in addition to the moderator, at least two more people from the team were present in each session: one person to take notes and replace the moderator in case of disconnection or technical failures, and another person from the operational team to keep an eye on any incident during the session.

Two screenshots of each focus group were taken. The faces of the participants have been deleted from these images.

After the field survey:

The video and audio recordings of the focus groups were labelled and stored on the moderators' computers.

Focus group were transcripted verbatim (if it was verbatim) and further translated from Spanish to English. The local data collection team was responsible for the transcription of the groups carried out in their country, to ensure the quality of the transcription. The 24 transcripts were translated from Spanish to English.

A database of participants from the 24 groups was integrated with the general information, socio-demographic characteristics and vulnerability factors and previously requested in the Filter Form. In accordance with the protocol for the protection of privacy and personal data of the participants, this database does not include the full names and addresses of the participants.

In the database, the names of the participants were replaced by a folio consisting of the group number and the participant number. For example, folio 6-4 corresponds to group 6, 4th participant.

Visibility of participants' names in signed letters of consent has been blocked. The faces and names of the screenshots taken as evidence of the 24 groups have also been blocked from visibility.

Annex D

Criteria for KIIs and FGDs

The proposed set of interviews were conducted according to the following objectives per stakeholder:

KIIs stakeholders	Objectives
Government	• Assess knowledge, attitudes, and commitment of policy makers toward addressing the epidemic of overweight and noncommunicable diseases in children, adolescents and parents who are affected by nutritionally poor diets and negative body image. • Identify current and former policies and legislation around diet and body image. • Identify barriers to the implementation of food policies and legislation
CSO	• Understand the perspective of advocacy groups and community leaders in terms of social norms that influence behaviors (diet and body image of children and adolescents) and the challenges and opportunities toward promoting social and policy change.
Education Sector	• Understand the perspective of teachers and staff around social norms that influence the healthy/unhealthy behaviors of children and adolescents. • Identify the existence of educational programs and materials around healthy diets and body image at the community level. • Understand the types of government-funded food programs offered at schools and the nutritional content of foods served
Private Sector	• Identify attitudes and commitment in relation to the application of measures to prevent and/or control unhealthy behaviors around diet and body image of adults, children, and adolescents. • Explore the role of the private sector in shaping social norms, attitudes and behaviours around diet and body image in children, adolescents and their parents/caregivers. • Understand their view on regulatory frameworks and policy interventions.
Media	• Identify communication channels and contents used to disseminate information on health and nutrition (aspirational narrative and discourses). • Which types of foods and drinks are being advertised. • Identify what are the main drivers for advertising food products (unhealthy and healthy foods and drinks). • Identify the connections or strategies used by media in regards to body image and nutrition.
Academia	• Confirm current trends on social and behavioral change around nutrition and positive body image.

Interviewee criteria

Individuals from key institutions that:

1. Represent the public, private and/or social sectors at the national level.

2. Impact the behavior of children and adolescents creating and influencing policies and programs around nutrition (design, implementation and evaluation)

3. Produce or hold sufficient and thorough knowledge of the food and beverages industries and their impact on social norms and behaviors

4. Are accessible, have relevant information, and are willing to share it

5. Have experience, capabilities and qualifications around the objective of the study

6. Have the capacity to provide recommendations for policy design and implementation at the national and regional level

7. Have had a significant role within their context, could have insights and represent potential partnerships that will impact the implementation of UNICEF's Nutrition Strategy 2020-2023.

FGD criteria

Although the groups were homogeneous around certain characteristics, their composition reflected the diversity of the local communities. In selecting participants for the groups, MAGENTA used the following criteria:

1. FGD location settings are categorized as urban or rural by national institutions

2. FGD are conducted in areas with increased rates or outsized impact of overweight and obesity

3. FGD location and participants represent regional/geographic representation of each country

4. FGD locations and participants represent social and cultural diversity (racial, ethnic, gender) of the country

5. Participants belong to a similar socio-economic group and have similar relatable life experiences.

6. For adolescents: Participants are of similar ages, as very young people may feel self-conscious about expressing themselves to older children or adults.

7. Represent different genders to enable comparison of people's experiences on the basis of gender.

The process for recruiting participants for the focus groups was as follows:

- Alignment with the specified profile criteria of the participants and logistical aspects (number of participants per group, schedule, technological requirements, among others).

- Written communications so that the recruiters of each country knew the required profile and conducted the application process according to the recruitment questionnaire (contextualized in Spanish for each one of the three countries). Each recruiter signed a confidentiality agreement for this project.

- The first contact was made through the method known as "snowball", where we started from previously established social networks with acquaintances in the region and/or communities, or by contacting local leaders to cascade with their contacts within the social group targeted by the study.

- Selection of participants from the database with the information collected through the aforementioned questionnaire.

- Confirmation of the participation of the selected people was through a confirmation phone call and explanation of the conditions and requirements for participation.

- Each signature was obtained in accordance with the Consent Letter and the Privacy Notice.

- Confirmation of infrastructure and connectivity conditions. Before each group session, a test was conducted to verify the correct functioning of the internet connection, the camera and the audio of the participants.

- All participants were informed of the compensation they received before attending the session. 9 guests are recruited to ensure the participation of 6-7 people.

Audio/Visual Recording and Transcriptions

Quality assurance measures were implemented throughout the preparation, data collection, and analysis process. These include:

- Audio Recordings: High-quality audio recordings of the full FGDs and KIIs were considered.

- The data collection partner ensured that all the FGDs were audio recorded, and that a note-taker focused on capturing the details of the conversations. Both audio recordings and notes were revised along with the translated transcripts of the interviews.

- Photos: At least two photos from each FGD and photos from some KIIs will be shared by the data collection team. Faces of respondents were obscured in all photographs.

  - The collection of personal data was be limited to relevant information to the research (demographic data and contact details)

  - In each FGD and KII, the participants were asked for their authorization to record the audio of the session. Likewise, it will be specified that the purpose of the audio recording is to keep the complete record of the group conversation and their opinions if necessary for subsequent analysis of information.

  - Additionally, the participants were informed that the recordings would be archived for the exclusive use of the research work team involved in the study and will not be published in any

media or shared with anyone outside of this project.

- During the sessions, the recordings started after the presentation of the participants, to prevent any names or personal data registration.

- Ethical and confidential management. of the information was emphasized throughout the data collection.

- In the note-taking, the names or personal data of FGDs participants were not be registered. The registration of the general characteristics of each group was limited to the locality in which they live, age group, gender, ethnic or racial characteristics, educational level, occupation, marital status, and household configuration. Individuals would only share the information they feel comfortable with. Participants were informed that his data will be used during the data collection analysis stage.

Annex E

Key Informant Interview Guides

KII Guidelines for Government Stakeholders

Step 1. Introduction (5 min)

Introduction of the Research Team and Explanation of the Purpose of the Research

Script for enumerators to read:

"Hello, my name is X (name of facilitator), and this is Y (name of note-taker). We work at MAGENTA, Thanks for agreeing to take part in this research we are conducting. The study will help to understand social norms and people's behaviors around nutrition and body image, and to investigate the factors that drive the consumption of nutritionally poor foods, as well as the rates of overweight. We have invited you to this interview because your professional experience will help us gain more knowledge on the factors that influence what foods people consider to be accessible, appealing, and aspirational in order to ultimately support policies that promote nutrition and health for all people."

Informed Consent Procedure

Note to facilitator: ensure that each participant has signed the consent form found in the protocol for the project prior to the start of the discussion

"The document it has been shared with you has all the details I will explain to you right now. We are carrying out multiple discussions such as this one to hear from professionals such as yourself, where there is no right or wrong answer. Please feel comfortable to express yourself freely, as all that we talk about here today will stay within this group. When we write the report, we will not mention any names or personal information. Your participation is voluntary, and so you have the right to not answer questions and to leave at any time you wish. There are no direct benefits to your participation, however, your views and opinions are very important as UNICEF is working to improve lives of people in your community.

If you do not mind, we would also like to record the discussion because we wish to have a document of the important insights that you provide to us, so that we can make sure that we do not miss any points that you make. The audio file would be shared only for investigative purposes, and we will not share it without your consent. If you refuse to be recorded, we will respect your wishes. Also, if you all accept to be recorded and during the discussion change your mind, we will make sure to stop recording. And as you were informed, the discussion will last around one hour. If you agree to participate, I will sign on two copies of the same document, one copy will stay with me and the other will be given to you."

KII Conversation Guide

Step 2. Interviewee's Background and Experience (5 min)

We'd like to start the discussion with a short introduction from your side. Please tell us:

1. What is your general professional background?

2. What is your professional role currently? What are your responsibilities?

3. What's the profile of the company/institution/organization you're working for?

4. Which communities and population sectors are you working with?

Step 3. Views on social norms around nutrition and body image (10 min)

The next topic that we would like to cover is about social norms around nutrition and body image. By social norms we are referring to the unspoken rules and expectations about how people act, aim to act, and by which they expect others to act.

5. How would you describe food and drink patterns (nutrition) and food cultures in [your country: either Colombia, Guatemala, or Mexico]?

6. How do you define "healthy" in terms of nutrition and body?

7. How do you think children, adolescents and parents/caregivers in Colombia/Guatemala/ Mexico view healthy eating and healthy drinks?

8. How do individuals understand healthy food and drinks? How were these understandings developed?

9. How does the government and/or your agency understand and define "nutrition" and "health"? Does this differ at various administrative levels (e.g., federal, state, municipal)?

10. What do you see as the factors that influence nutritional trends in the country?

   • How do you view, if at all, the relationship between the high consumption of processed foods and nutritionally poor foods and the context or environmental conditions people live in?

11. What are the structural barriers that influence people's decisions around food? [The following examples can be mentioned if the question is not understood]For instance, have there been increases in food prices, inflation, long transportation times, electricity and/or water shortages?

12. What do you see as the factors that contribute to trends around overweight?

13. Do you think that views or teaching around overweight have changed over the years? How?

Step 4. Knowledge, attitudes, and commitment around nutrition and body image (20 min)

The next topic we'd like to cover is how your government or governmental agency engages with nutrition and to discuss the opportunities and challenges around that.

14. What factors do you think are the main factors that influence trends around nutrition in the country/region?

   • How do you see the role of other sectors in influencing nutrition trends?

      • In particular, what do you see as the role of the private sector in influencing nutritional trends?

15. How does the government / your agency work to influence or counter unhealthy trends around nutrition and body image?

16. What types of programs are in place, in progress, or absent that hinder or promote nutrition?

17. In particular, what types of programs are in place, in progress, or absent that hinder or promote the consumption of highly processed foods?

18. What is your government / agency doing to influence these trends, in particular to promote, access to nutritious and balanced foods?

   • How many of these policies / programs are being or have been implemented?

   • What are the barriers, if any, to implementing them?

19. Do you think individuals' knowledge and attitudes influence policies' implementation? How?

Step 5. Policies and Legislation on Diet and Body Image. (15 Min)

For our final section of the inverview, I'd like us to talk about current or previous policies that have encouraged more people to change behavior around diet and nutrition.

20. What role does your government play or how does it see its role in promoting nutrition? What types of food policies exist to promote nutrition?

   • How are these policies designed to work? What is their goal?

   • Do they target particular populations? If particular, whom do they target and why?

   • Have these policies been implemented? How do you implement them and ensure compliance?

   • How does the government assess and document the state of nutrition in the country? How regularly does this documentation occur?

   • How, if at all, does this assessment and/or documentation inform policies and programs aimed at improving nutrition?

   • How, if at all, does the government view the relationship between high consumption of processed and nutritionally poor foods and environmental settings and context of people?

21. How does the government and/or your agency view its role, if at all, in informing and educating people about nutrition? What has worked and what you would you consider must be done differently?

22. How would you say that the government has worked around those influences?

23. From your experience what needs to change first so that more people are consuming fewer processed and nutritionally poor foods? Please give us examples.

24. Are there any specific institutions who are or could also be effective in influencing people behavior around nutrition? Which ones and why would they be effective?

25. In your opinion, what would it take to really make a difference to overweight and the consumption of processed and nutritionally poor foods in your country?

26. Is there anything else you would suggest as a step towards changing people's behaviors and decisions

Step 6. Closing (5 Min)

• Thank participants for their time.

• Tell participants where they can get more information about the research later.

• Ask if they have any feedback on how the discussion was conducted – what could improve it for the next group?

KII Guidelines for Advocacy Groups Civil Society Organizations(CSO) and Media

Step 1. Introduction (5 min)

Introduction of the Research Team and Explanation of the Purpose of the Research

Script for enumerators to read:

"Hello, my name is X (name of facilitator), and this is Y (name of note-taker). We work at MAGENTA, Thanks for agreeing to take part in this research we are conducting. The study will help to understand social norms and people's behaviors around nutrition and body image, and to investigate the factors that drive the consumption of nutritionaly poor foods, as well as the rates of overweight. We have invited you to this interview because your professional experience will help us gain more knowledge on the factors that influence what foods people consider to be accessible, appealing, and aspirational in order to ultimately support policies that promote nutrition and health for all people."

Informed Consent Procedure

Note to facilitator: ensure that each participant has signed the consent form found in the protocol for the project prior to the start of the discussion

"The document I have provided you has all the details I will explain to you right now. As I mentioned, we are carrying out multiple discussions such as this one to hear from professionals such as yourself.

Of course, there is no right or wrong answer. Please feel comfortable enough to express yourselves freely during the discussion, as all that we talk about here today will stay within this group. When we write the report, we will not mention any names or personal information. Your participation is voluntary, and so you have the right to not answer questions and to leave at any time you wish. There are no direct benefits to your participation, however, your views and opinions are very important as UNICEF is working to improve lives of people in your community.

If you do not mind, we would also like to record the discussion because we wish to have a document of the important insights that you provide to us, so that we can make sure that we do not miss any points that you make. If we need to share the audio file with UNICEF, we will contact you first. We will not share the file without your consent. However, if you refuse to be recorded, we will respect your wishes. Also, if you all accept to be recorded and during the discussion change your minds, we will make sure to stop recording. And as you were informed, the discussion will last around one hour. If you agree to participate, I will sign on two copies of the same document, one copy will stay with me and the other will be given to you."

Step 2. Interviewee's background and experience (10 min)

We'd like to start the discussion with a short introduction from your side. Please tell us:

1. What is your general professional background? What is your professional role currently? What are your responsibilities?

2. What's the profile of the company/institution/organization you're working for?

3. Which communities and population sectors are you reaching or working with?

Step 2. Views around Diet and Body Image (10 min)

Let's talk about the topic of diet & body image and how people in Colombia/Guatemala/Mexico view it.

4. How would you describe food and drink patterns (nutrition) and food cultures in [your country: either Colombia, Guatemala, or Mexico]?

5. How do you define "healthy" in terms of nutrition and body?

6. How do you think children and adolescents in Colombia/Guatemala/Mexico view and understand healthy foods and drinks?

7. What do you see as the factors that influence nutritional trends in the region?

   • How do you view, if at all, the relationship between high consumption of processed foods and nutritionally poor foods and the context or environmental conditions people live in?

8. What do you see as the factors that contribute to trends around overweight in the region?

9. Do you think views around overweight have changed through the years? How?

Step 3. Perspectives on Advocacy, CSO and media organizations role in promoting nutrition (15 min)

The next topic we'd like to cover is the role of your organization in promoting nutrition and/or positive body image for everyone?

10. In what areas does your organization work? What do you see as the relationship or perhaps even the obligation of your organization in promoting nutrition and/or positive body image?

11. What are the structural barriers and opportunities that influence people's decisions around food? [To be mentioned if necessary to clarify question: For instance, have their been increases in food prices, long transportation times, electricity and/or water shortages]

12. If Advocacy or CSO: What types of programs has, does, or will your organization run to promote nutrition and positive body image?

13. If Media: What types of programs or stories has, does, or will, your organization run on nutrition and positive body image?

14. What types of opportunities and challenges do you face in implementing these programs and/or running these stories?

    • What would make it easier to implement these programs?

    • What type of engagement and response do you have from the public/beneficiaries?

    • What type of engagement and response do you have from other sectors?

        • In particular, what type of engagement, response, support or barriers do you have from the private and public sectors?

15. What do you think it would take to change behaviors and trends around the consumption of highly processed and nutritionally

16. How do you think we can change social norms around diet and nutrition?

17. What has to be done to positively influence social norms around diet and body image?

18. What are the main reasons that might make people reluctant of healthy nutritional habits?

Step 4. Narrative and communication channels for nutrition and body image (15 Min)

Closing our discussion, I'd like us to talk about future steps and initiatives that could encourage more people to change behavior around nutrition and promote both health and positive body image.

19. What type of information is being disseminated around nutrition and body image? By whom?

    • What is the message of these public forms of information?

    • What type of institutions have collaborated or delivered information around this?

20. Which platforms have more impact and influence people's decisions around food?

21. Which campaigns have been successful in positively influencing or increasing access to nutrition? Who implemented them? And why were they successful?

22. In your opinion, what would it take to really make a difference to overweight and the consumption of highly processed and nutritionally poor foods in your country?

23. Are there any people/organizations etc. who would be more effective in communicating with people about nutritional food? Who are they and why would they be effective?

24. Is there anything else you would suggest as a step towards changing behaviors, attitudes, knowledge and social norms around diet and body image/weight?

Step 5. Strengths and weaknesses of food environments (10 Min)

Closing our discussion, I'd like us to talk about the strengths and opportunity areas of Food Systems and future steps that could encourage more people to change behavior around diet and body image.

25. How do you think that the availability of processed foods in people's environments influence behaviors around diet and body image?

26. In your view, what has been effective for increasing healthy diets and body image? What has not?

   • What is the message of these public forms of information?

27. How does the private sector and/or your company view policy interventions that are aimed at curbing the consumption of processed foods?

28. If the private industry has concerns about food policies, what would it take for the private sector to support policies aimed at curbing the consumption of highly processed foods and beverages?

29. From your perspective, what needs to change in the in people's environments so that more people make decisions that promote nutrition for themselves. Please give us examples.

30. Are there any specific institutions who are or could also be effective in influencing people's behavior around diet? Which ones and why would they be effective?

31. Are there any specific private companies in the food sector or in other sectors that in your opinion are influencing people's behavior around diet and body weight? Can you list some examples please and tells us why are you considering them effective in this regard?

32. Is there anything else you would suggest as a step towards changing behaviors, attitudes, knowledge and social norms around diet and body image/weight?

Step 6. Closing (5 Min)

   • Thank participants for their time.

   • Tell participants where they can get more information about the research later.

   • Ask if they have any feedback on how the discussion was conducted – what could improve it for the next group?

KII Guidelines for the Education Sector

Step 1. Introduction (5 min)

Introduction of the Research Team and Explanation of the Purpose of the Research

Script for enumerators to read

"Hello, my name is X (name of facilitator), and this is Y (name of note-taker). We work at MAGENTA, Thanks for agreeing to take part in this research we are conducting. The study will help to understand social norms and people's behaviors around nutrition and body image, and to investigate the factors that drive the consumption of nutritionaly poor foods, as well as the rates of overweight. We have invited you to this interview because your professional experience will help us gain more knowledge on the factors that influence what foods people consider to be accessible, appealing, and aspirational in order to ultimately support policies that promote nutrition and health for all people."

Informed Consent Procedure

Note to facilitator: ensure that each participant has signed the consent form found in the protocol for the project prior to the start of the discussion.

"The document I have provided you has all the details I will explain to you right now. As I mentioned, we are carrying out multiple discussions such as this one to hear from professionals such as yourself. Of course, there is no right or wrong answer. Please feel comfortable enough to express yourselves freely during the discussion, as all that we talk about here today will stay within this group. When we write the report, we will not mention any names or personal information. Your participation is voluntary, and so you have the right to not answer questions and to leave at any time you wish. There are no direct benefits to your participation, however, your views and opinions are very important as UNICEF is working to improve lives of people in your community.

If you do not mind, we would also like to record the discussion because we wish to have a document of the important insights that you provide to us, so that we can make sure that we do not miss any points that you make. If we need to share the audio file with the UNICEF, we will contact you first. We will not share the file without your consent. However, if you refuse to be recorded, we will respect your wishes. Also, if you all accept to be recorded and during the discussion change your minds, we will make sure to stop recording. And as you were informed, the discussion will last around one hour. If you agree to participate, I will sign on two copies of the same document, one copy will stay with me and the other will be given to you.

Step 2. Interviewee's background and experience (10 min)

We'd like to start the discussion with a short introduction from your side. Please tell us:

1. What is your general professional background? What is your professional role currently? What are your responsibilities?

2. What's the profile of the company/institution/organization you're working for?

3. Which communities and population sectors are you reaching or working with?

Step 3. Views around Nutritional Diet and Body Image (15 MIN)

Let's talk about the topic of diet & body image and how people in Colombia/Guatemala/Mexico view it:

4. How would you describe food and drink patterns (nutrition) and food cultures in [your country: either Colombia, Guatemala, or Mexico]?

5. How do you define "healthy" in terms of nutrition and body? How does a healthy child or adolescent look?

6. How do you think children and adolescents in Colombia/Guatemala/Mexico view and understand healthy foods and drinks?

7. How does the educational sector understand and define "nutrition"? Does this differ between different school or regions?

8. What do you see as the factors that influence nutritional trends in the country?

    • How do you view, if at all, the relationship between high consumption of processed foods and nutritionally poor foods and the context or environment conditions people live in?

    • What are the structural barriers that influence people's decisions around food? [To mention if the question needs to be clarified: For instance, have there been increases in food prices, long transportation times, electricity and/or water shortages]

9. What do you see as the factors that contribute to trends around overweight in the region?

10. Do you think views or teachings around overweight have changed through the years? How?

Step 4. Views on Educational Sector's Role in Influencing Behaviors around Diet and Food (15 min)

The next topic we'd like to cover is your views on the education sector's role in influencing and informing behaviors around nutrition and food choices.

11. How does the education sector see its role in relation to promoting nutrition for all children?

    • What types of programs exist to promote nutrition?

        For instance, are there educational programs? If so, what are they?

        • How are these programs implemented?

        • When and where are the programs implemented?

        • What is the curriculum of these programs? How are the curricula developed?

            • Could you share the curriculum with us?

        Are there meals at schools and/or publicly funded school meals for children? If so, what are they?

        • What types of foods are served?

- • Who decides what to serve? How are decisions made about what to serve?

- What are the challenges and opportunities that the education sector sees or has in relation to promoting nutrition?

  For instance, does the sector have informational, awareness, or attitude gaps among teachers? How does this affect its educational delivery?

  Are there structural barriers within or outside of the sector that influence the sector's ability to promote nutrition? If so, what are they? How do they influence the sector?

  - • Are these structural barriers uniform across the country? Or do they differ by region, state, district, etc.? If so, how?

12. How does the education sector see its role in promoting positive body image, as well as promoting physical health in children?

   - How does the sector, if at all, understand and define positive body image and overweight in children?

   - What types of programs, if any, exist to promote positive body image and to prevent or address overweight?

     For instance, are there sports or physical education programs? If so, what are they?

     - • How are these programs implemented?

     - • When and where are the programs implemented?

     - • What is the curriculum of these programs? How are the curricula developed?

       - • Could you share the curricula with us?

   - What are the challenges and opportunities that the education sector sees or has in relation to promoting physical health and positive body image?

     Are there structural barriers within or outside the sector that influence the sector's ability to promote physical health and positive body image? If so, what are they? How do they influence the sector?

     - • Are these structural barriers uniform across the country? Or do they differ by region, state, district, etc.? If so, how?

Step 5. Education Policies around Diet and Body Image (10 Min)

Closing our discussion, I'd like us to talk about current, previous, or potential education or food policies that promote nutrition, physical health, and positive body image for all children?.

13. What types of educational and food policies exist to promote nutrition for children?

    • How are these policies designed?

    • How are these policies implemented?

        Are there policies that exist but that have not been implemented? If so, what are they? Why have they not been implemented?

    • What does "success" look like for these policies? How successful would you say these policies have been, thus far?

    • What are the challenges and opportunities that influence the success of these policies?

    • Are there structural barriers that influence the outcomes of these policies?

14. What types of educational and food policies exist to promote physical health and positive body image for children?

    • How are these policies designed?

    • How are these policies implemented?

        Are there policies that exist but that have not been implemented? If so, what are they? Why have they not been implemented?

    • What does "success" look like for these policies? How successful would you say that these policies have been, thus far?

    • What are the challenges and opportunities that influence the success of these policies?

        Are there structural barriers that influence the outcomes of these policies?

    • In your opinion, what would it take to really make a difference to promoting nutrition and physical health and preventing overweight in children?

15. What would it take to really make a difference to the rates of consumption of highly processed and nutritionally poor foods in your country?

    • Are there specific institutions or sectors that could be effective in the work of shifting behavior and decisions around the consumption of processed and nutritionally poor foods?

        If so, what are they? How do you see their role and influence?

    • Is there anything else that you would suggest as a step toward changing behaviors around diet, physical health, and body image?

Closing (5 Min)

- Thank participants for their time.

- Tell participants where they can get more information about the research later.

- Ask if they have any feedback on how the discussion was conducted – what could improve it for the next group?

KII Guidelines for Private Sector

Step 1. Introduction (5 min)

Introduction of the Research Team and Explanation of the Purpose of the Research

Script for enumerators to read:

"Hello, my name is X (name of facilitator), and this is Y (name of note-taker). We work at MAGENTA, Thanks for agreeing to take part in this research we are conducting. The study will help to understand social norms and people's behaviors around nutrition and body image, and to investigate the factors that drive the consumption of nutritionaly poor foods, as well as the rates of overweight. We have invited you to this interview because your professional experience will help us gain more knowledge on the factors that influence what foods people consider to be accessible, appealing, and aspirational in order to ultimately support policies that promote nutrition and health for all people."

Informed Consent Procedure

Note to facilitator: ensure that each participant has signed the consent form found in the protocol for the project prior to the start of the discussion

 "The document I have provided you has all the details I will explain to you right now. As I mentioned, we are carrying out multiple discussions such as this one to hear from professionals such as yourself. Of course, there is no right or wrong answer. Please feel comfortable enough to express yourselves freely during the discussion, as all that we talk about here today will stay within this group. When we write the report, we will not mention any names or personal information. Your participation is voluntary, and so you have the right to not answer questions and to leave at any time you wish. There are no direct benefits to your participation, however, your views and opinions are very important as UNICEF is working to improve lives of people in your community.

If you do not mind, we would also like to record the discussion because we wish to have a document of the important insights that you provide to us, so that we can make sure that we do not miss any points that you make. If we need to share the audio file with the UNICEF, we will contact you first. We will not share the file without your consent. However, if you refuse to be recorded, we will respect your wishes. Also, if you all accept to be recorded and during the discussion change your minds, we will make sure to stop recording. And as you were informed, the discussion will last around one hour and a half. If you agree to participate, I will sign on two copies of the same document, one copy will stay with me and the other will be given to you."

Step 2. Interviewee's background and experience (5 min)

We'd like to start the discussion with a short introduction from your side. Please tell us:

1. What is your general professional background? What is your professional role currently? What are your responsibilities?

2. What's the profile of the company/institution/organization you're working for?

3. Which communities and population sectors are you reaching or working with?

Step 3. Views around Nutrition and Body Image (15 MIN)

Let's talk about the topic of diet & body image and how people in Colombia/Guatemala/Mexico view it.

4. How would you describe food and drink patterns (nutrition) and food cultures in [your country: either Colombia, Guatemala, or Mexico]?

5. How do you define "healthy" in terms of nutrition and body?

6. How do you think children and adolescents in Colombia/Guatemala/Mexico view and understand healthy foods and drinks?

7. How does your industry/company understand and define health? In terms of nutrition? In terms of body?

    • How does your company promote health and nutrition for staff?

    • What do you see as the factors that influence nutritional trends in the country?

    • If a food & beverage company: Who are your main customers and audiences?

    • If a food & beverage company: What do customers like about your product?

        How do you keep customers satisfied?

        How do you keep customers engaged?

        How do you think about what makes foods appealing and aspirational?

8. Who are your main consumers and audiences of your company and product?

9. Within the private sector, in particular in the food and beverage industry, how do these parts of the private sector view health and the status of metabolic health in your country?

10. What does your organization see as their role in promoting health and nutrition in your country?

11. What are the structural barriers that influence people's decisions around food? For instance, have there been increases in food prices, long transportation times, electricity and/or water shortages?

12. What do you see as the factors that contribute to trends around overweight in the region?

13. Do you think views or teaching around around overweight have changed through the years? How?

Step 4. Attitudes and commitment around Diet and Body Image (15 Min)

The next topic we'd like to cover is views on social norms that influence behaviors around diet and nutrition.

14. What do you understand by healthy diet or healthy eating patterns (HEP)? What do you think society in general understand about them?

15. What factors do you think are the main drivers of social norms in the country/region?

16. How do private companies influence these social norms around diet, nutrition and body image? How about other actors?

17. How aware do you think people are of healthy diet or healthy eating patterns and its benefits? What drives/motivates them to follow or not HEP?

18. Do you see any obstacles to HEP? What is the source of these obstacles in your opinion?

19. Do you think there are any misconceptions around healthy nutritional habits? Which ones and how do they affect people? How do you think these misconceptions were developed?

20. What do you think has to be done to promote healthy eating patterns and to change unhealthy eating patterns (probe psychology, sociology and environment factors)? Who needs to do it? (interviewers could explain the factors and dimensions within each of the 3 levels)

21. How do you think we can change social norms around diet and nutrition in children, adolescents and in their caregivers/parents?

22. What must be done to positively influence social norms around diet and body image?

23. What are the main reasons that might make people reluctant of healthy nutritional habits?

Step 5. Strengths and weaknesses of food environments (15 Min)

Closing our discussion, I'd like us to talk about the strengths and opportunity areas of Food Systems and future steps that could encourage more people to change behavior around diet and body image.

24. How do you think that the availability of processed foods in people's environments influence behaviours around diet and body image?

25. In your view, what has been effective for increasing healthy diets and body image? What has not?

   • How have private companies thought about those influences?

26. How does the private sector and/or your company view policy interventions that are aimed at curbing the consumption of processed foods?

27. If the private industry has concerns about food policies, what would it take for the private sector to support policies aimed at curbing the consumption of highly processed foods and

beverages?

28. From your perspective, what needs to change in the in people's environments so that more people make decisions that promote nutrition for themselves. Please give us examples.

29. Are there any specific institutions who are or could also be effective in influencing people's behavior around diet? Which ones and why would they be effective?

30. Are there any specific private companies in the food sector or in other sectors that in your opinion are influencing people's behavior around diet and body weight? Can you list some examples please and tells us why are you considering them effective in this regard?

31. Is there anything else you would suggest as a step towards changing behaviors, attitudes, knowledge and social norms around diet and body image/weight?

Step 6. Closing (5 Min)

- Thank participants for their time.

- Tell participants where they can get more information about the research later.

- Ask if they have any feedback on how the discussion was conducted – what could improve it for the next group?

Annex F

Focus Group Discussion Guides

FGD Guidelines for Mothers, Fathers or Caregivers of Children aged 5 – 0 years, and Children and Adolescents aged 19 – 5 years

Introduction (5 min)

INSTRUCTION	SCRIPT
Introduce yourself and assistant.	Hello everybody, my name is X (name of facilitator) and this is Y (name of note-taker). We work at ____. Thanks for agreeing to take part in this research.
Outline the study background and FGD purpose.	We are trying to find out about social norms around food and eating. We are interested in knowing how people eat, cook, and share meals in your community. We are having conversations with people in many communities across Latin America to paint a picture about the cultures of food and eating in the region. UNICEF is supporting this research and the results of our research will be published as a report.
Ethical Consent Procedure	Prior to this session, each of you was given a document entitled "Letter of consent" with the objectives of this session, in which we informed you how we will use this information, and the important points about the privacy of your name and personal data, ¿ Do you have any questions about the content of that document? (MOD: If doubts arise, clarify them according to the guidelines contained in the consent letter)
Ground Rules for Discussion	Before we start, I want to highlight the following points about the dynamic of the session: 1. This session will last between 1:30 and 1:45 minutes. It is a group conversation, the idea is that we talk to each other and share our views. 2. My job as moderator is to ask the questions and manage that everyone has the opportunity to participate. 3. We ask that you keep your microphone on silent during the session, so that external noise does not interfere and we can always hear each other. 4. To participate, all you have to do is signal the camera or activate the "Raise your hand" button. Please don't speak at the same time or interrupt another person while they are speaking. 5. There are not correct or incorrect answers 6. All your opinions and experiences are very important and we want to hear them. 7. No one is to be judged here. 8. If you agree, I will start recording the session when I start the conversation, after we introduce ourselves.
Discussion related to the age of your children	I ask you, please, that when we talk about issues related to the nutrition of your sons or daughters, we focus on your sons or daughters under 5 years old / sons or daughters between 6 and 19 years of age (according to the group's profile).

General and Demographic Information

Information about the participants, to be completed prior to the FGD

General Information on FGD	
Date	
Number of Participants	
Duration of FGD	
Presence of Recording	
Name of Facilitator	
Name of Note-taker	

Warm up (5 Min)	
Q#	**Questions**
	Note for Moderators: The left colum entitled "Question" shows the primary research question that we are aiming to answer in each section. The column to the right, entitled "Probes", shows the supplementary questions. We are interested to answer these questions as much as possible to provide a holistic picture of eating and food, however, the list is lengthy, so it is therefore not necessary to ask each question. Please treat the probes as a guide for robust discussion.
1	Please introduce yourself, your name or how you would like to be called by in this discussion and the age of your children. It doesn't have to be your real name if you don't want to. **Note to the MODERATOR**: Start the recording at the end of the introductions.
Space for notes	

Family's Eating Habits (20 Min)		
Q#	**Question**	**Probes**

2	What do you usually eat on a typical day?	• How many and what meals do you eat on a typical day? What do you like to eat typically? (Note to MODERATOR: from there, ask for each moment/meal)
		  • For example, what did you have for breakfast yesterday? And your son(s)/daughter(s)?
		  • What did you eat in the afternoon? And your children?
		  • What did you have for dinner? And your children?
		  • And between meals, what did you and your children eat?
		• What foods or snacks are common at times of craving? What times of the day or week does that happen?
		  • How many and what types of vegetables and fruits do you eat on a typical day?
		  • What types of beverages do you regularly drink and how often?
		  • How often do you drink water, juice, soda?
		  • How often do you drink home-made beverages, such as tea and coffee? If you add sugar, how much?
		  • How often do you go out to eat or buy food on the street?
		    • When you eat on the street, do you eat in restaurants, cafes, street stalls or do you bring your own food from home?

Space for notes		

3	What types of pastries, sweets, and candies do you like?	• How many times per week do you eat these foods and sweets? • Where do you usually get them? Do you make them? • If you buy them, from where?
Space for notes		
4	If you like to have soda, what type do you like to have?	• When you have soda (sugary/carbonated beverages), what types do you like to have? • Do you have favorite brands of soda? • How many times a week / or a day do you drink soft drinks? Do you drink soft drinks with your meals (e.g., with breakfast, lunch, dinner?) • When your child(ren) have soft drinks, what types do they like to drink? • How old was your child(ren) when he/she had a soft drink for the first time? • How many times a week/day does your child(ren) drink soft drinks?
Space for notes		

Purchases or way of obtaining food (15 Min)		
Q#	**Question**	**Probes**
5	Where do you regularly buy or get the ingredients and food for your family meals?	• Do you grow any food at home? Do you raise animals? • Where do you get the foods that are most common in your home? (for example, tortillas, rice, beans, arepas, bread, etc.) • Where do you regularly get your fruits and vegetables? • Which products do you buy the most? • Where do you regularly buy snacks/treats and desserts? • Are there times when it's hard to afford the food you want or need to buy? • How far do you or your family has to travel and what transport do they use to get the food they buy?
Space for notes		

Food preparation and meal timing (20 Min)		
Q#	**Question**	**Probes**
6	How is do you decide what to cook for your children or what is cooked for your children on a typical day? Whether you are responsible for cooking or someone else	**Nota para el MODERADOR/A**: Recordar que se enfoquen a sus hijos o hijas de 0 a 5 años / 6 a 19 años, según el perfil del grupo. • How do you or someone in your household decide what to make? • What types of foods do your children eat for these meals and for snacks? • How many and what types of vegetables and fruits do they eat on a typical day? • What types of beverages do your children drink and how often? • What role do women and men have in making meals?
Space for notes		
7	How is food prepared at home for your family?	• How is food prepared at home? • Are all meals prepared at home? Which are not? • What is the role of children and adolescents in the preparation of food at home?
Space for notes		

8	For mothers/ fathers/guardians of young children How do you feed or fed your baby or toddler?	• Do you breastfeed, or did you breastfeed your children? • How was your experience? • How did you decide to breastfeed? • How did you decide to stop breastfeeding? • When and how did you start incorporating other foods into your children's diet? • What types of foods and drinks were introduced to your children? For example, they started with porridge or ground, broths and soups, teas, etc. • What ingredients were or are included in those foods and drinks? • How do you think these ingredients help the health of your babies or young children?
Space for notes		
9	How is food served to your children? How are they fed? How do the children react?	• Once you have cooked and the food is ready, how is the food served at home? • What is the role of children in serving food? • How would you say your children eat? • What happens when you try a dish with vegetables that your children have not tried or do not usually eat? What do you tell them to encourage them to try the new ingredients? • If they dare to try but then say that they are full, what do they do or what do they tell them? • Does all this change if it is a girl or a boy who does not want to finish the dish or does not want to try the food? If so, how does it change and why do you think it is different?
Space for notes		

Activity	Instructions for Activity (15 Min)
10. Social Network Mapping	Guiding questions for moderator reference [Do not read aloud to participants]: Who are the people in participants' social circles? How does information about food and health flow in their social circles? The moderator of the group discussion will be provided with a diagram of the Social-Ecological Model that the moderators will fill out based on the information that participants provide. This diagram will depict five concentric circles, each of which represents an increasingly distant part of a person's community: The center circle represents the individual; the second circle represents their family; the third represents their peers; the fourth represents members of their broader community; and the fifth represents the media (e.g., television, radio, etc.). This network enables researchers to both analyze how information is shared within a community and to analyze which forms of information are important to them. Instructions: **1.** Let's think about the past week or month and focus on the conversations you had about carbonated and sugary beverages (for instance, Coca-Cola) and junk food or with your family about food, just think about your family for now. • What type of conversations about sodas and junk foods did you have with your family? • What type of sodas and junk foods do members of your family eat? When do you have sodas (e.g., at meals, at parties, with guests?) and junk food? • Do you or anyone in your family soda when you don't feel well? Why? What effects does it have? How did you learn this remedy? • What impact does soda have on one's health? • Would you say that it's a difficult topic to discusss in your family or that it's easy? **2.** Now let's think about your friends and your closest circle, that is, the people with whom you live and interact the most, such as your neighbors, co-workers, parents from your children's school. • What type of conversations about sodas and junk foods did you have with your friends and closest circle? • What type of sodas and junk foods do members of your friends eat? When do you have sodas (e.g., at meals, at parties, with guests?) and junk food? • Do you or anyone in your friends [sic] soda when you don't feel well? Why? What effects does it have? How did you learn this remedy? • What impact does soda have on one's health? • Would you say that it's a difficult topic to discuss in your family [sic] or that it's easy?

	3. Now let's go a little further, not just family or friends, but people from the community. For example, it can be a neighborhood leader, a religious leader, teachers, even the owner of the store or market stall, or the cashier at the supermarket. Perhaps these conversations are less common so let's think in general about these types of conversations with other people in the community.
	• What type of conversations about sodas and junk foods did you have with people in your community?
	• ¿Cómo habla la gente de tu comunidad sobre los refrescos? Qué importancia, si es que tiene alguna, tiene los refrescos en tu comunidad?
	• ¿Dirían que es un tema difícil entre familia [sic] del cuál platicar o que es cómodo?
	4. Finally, let us now think about the media, since we also obtain information about food in places such as television programs, on the radio, on social networks, in the newspaper, even in advertisements that we see on the street, painted on the fence, in the billboards or in the public transport. Please, think of concrete examples, for example, instead of talking about "on television", tell me the name of the television program or even the person who appears in the program that for you is an important source of information about food.
	• Where and when have you seen information about soda and junk food recently?
	• What was it about?
	• Did you learn something you didn't know?
	• Was it only an advertisement or do you also remember seeing advice or recommendations?
	After the conversation is complete, thank everyone for their participation: Okay, thank you very much for doing this activity with me. This information is going to be very helpful for us. Is there anything else that anyone would like to add before we move on?
11	Which of these circles has the greatest influence and relevance? • Of these 4 social circles, which is the one that really influences you the most when deciding what foods to buy and/or cook? • Please briefly tell me an example

FGD Guidelines for Adolescents aged 16 – 14 years

Introduction (5 min)

INSTRUCTION	SCRIPT
Introduce yourself and assistant.	Hello everybody, my name is X (name of facilitator) and this is Y (name of note-taker). We work at ____. Thanks for agreeing to take part in this research.
Outline the study background and FGD purpose.	We are trying to find out about social norms around food and eating. We are interested in knowing how people eat, cook, and share meals in your community. We are having conversations with people in many communities across Latin America to paint a picture about the cultures of food and eating in the region. UNICEF is supporting this research and the results of our research will be published as a report. We think that your views are very important, and we all hope that this study will inform future projects to improve nutrition and health for all children in Latin America.
Ethical Consent Procedure	• Confirm the signing of the consent letter: Prior to this session, each of you were given a document to read with the details and objectives of this session, and from what we understand, both you and your parents, mothers or guardians, have already signed it and agreed. Is there anyone who hasn't signed it yet? MODERATOR: If someone has not signed it, please proceed to sign it online, as well as the father, mother or guardian. If they don't sign it, they can't participate in the group.

	• Just to confirm, can you tell me your age please? (Ask everyone. Participants must be between 14 and 16 years old; if someone is underage, they cannot participate in the session) • There are not correct or incorrect answers • All your opinions and experiences are very important and we want to hear them. • No one will be judged here. • Feel free to express yourself freely during the discussion, as long as we do it respectfully. • When we write the report, we will not mention any particular name or personal information of any of you. • Your participation is voluntary and you have the right to refuse to answer any question that might make you feel uncomfortable or to leave the session if you wish. However, we hope that you will stay and share your opinions with us, since they are very valuable in our mission to improve the living conditions of the people of your country, especially that of children, adolescents, their fathers, mothers and caregivers. • If you agree, we also want to record this conversation, since there are several of us in this session and it would be impossible to be able to take notes of all their opinions or remember everything they told us afterwards. Can we record the session when we start talking? • I remind you, no one else will have access to that conversation other than the researchers who are participating. • If someone changes their mind during the session, or has any questions, feels uncomfortable or even wants to stop participating, please let us know. • This session will last between 1:30 and 2 hours
ESOMAR sensitive topic discussion guidelines among young people (14-16 years old)	A detailed description about what is going to be asked and about the purposes of the study must to be given to both the parent and the child. Their agreement must be obtained to continue.
Ground Rules for Discussion	Before we start our discussion, I want to make sure we set some ground rules. 1. WE WANT YOU TO DO THE TALKING. We would like everyone to participate. We would highly encourage everyone to share their views. 2. THERE ARE NO RIGHT OR WRONG ANSWERS. Everyone's experiences and opinions are important. Speak up whether you agree or disagree. We want to hear from all of you. 3. WHAT IS SAID ON THIS PLATFORM STAYS HERE. We want everyone to feel comfortable sharing their opinion regarding any issues that come up. 4. WE WILL NOT TALK AT THE SAME TIME. We want to take turns to talk, so we can all hear your opinions and experiences. Would you like to add any additional rules? Is everything clear about the course of the discussion?" (If everyone says things are clear, proceed with the discussion. If not, make sure to answer all inquiries and questions before starting the discussion). The discussion will last for about 1.5 hours. If you want to stop the discussion for any reason, please just raise your hand and I will be happy to do so. If any questions that I ask make you feel uncomfortable, you can ask me to skip them.
Reiterate confidentiality and ask participants to agree to same principles.	Before we begin, I want to remind you that your participation is voluntary and that if anyone wishes to stop the conversation at any point, please feel free to tell me. If a question makes you feel uncomfortable, we can move to the next one. The discussion today may be quite sensitive and even personal. For this reason, we won't share the recording with anyone outside the project team. We will not write your names in any of the notes. If there is anything you say that you don't want us to write down, let us know after the discussion and we will delete it. We are committed to protecting you and the information you share with us. We want you to feel safe.

Information about the participants, to be completed prior to the FGD

General Information on FGD	
Date	
Number of Participants	
Duration of FGD	
Presence of Recording	
Name of Facilitator	
Name of Note-taker	

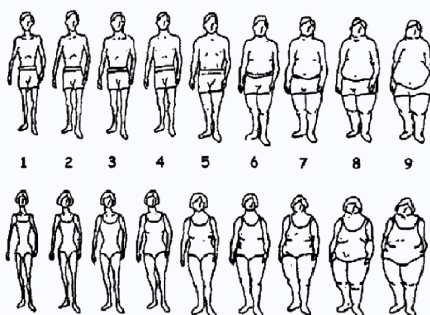| Warm up (5 Min)	
Q#	**Questions**
	Note for Moderators: The left colum entitled "Question" shows the primary research question that we are aiming to answer in each section. The column to the right, entitled "Probes", shows the supplementary questions. We are interested to answer these questions as much as possible to provide a holistic picture of eating and food, however, the list is lengthy, so it is therefore not necessary to ask each question. Please treat the probes as a guide for robust discussion.
1	Please introduce yourself, the name you would like to be called by in this discussion. It doesn't have to be your real name if you don't want to. Please also share with us if you go to school and, if the case, in which grade.
Space for notes	

Home		
Food Habits (20 Min)		
Q#	**Question**	**Probes**

2	What do you usually eat on a typical day?	• How many and what meals do you eat on a typical day? What do you like to eat typically?
		  • For example, what did you have for breakfast yesterday?
		  • What did you eat in the afternoon?
		  • What did they have for dinner?
		  • And between meals, what did you eat?
		• In addition to all that you ate yesterday, what other foods are common in your daily life? (MOD: Explore at different times of the day, not just at the main meal)
		• What foods are common at times of craving? When in the day or week does that happen?
		  • How many and what types of vegetables and fruits do you eat on a typical day?
		  • What types of beverages do you regularly drink and how often?
		  • How often do you drink water, juice, soda?
		  • How often do you drink home-made beverages, such as juice, tea, coffee, or another beverage? If you add sugar, how much?
		  • How often do you go out to eat or buy food on the street?
		  • What type of place is the most common, inn, street stall, restaurant, store food?
		  • And when it comes to a special meal, what things change from what you've mentioned so far? Tell me, what foods are special? What makes it special? When and with whom do you eat it?

Space for notes		

3	What types of sweet foods and candy do you like?	• How many times a week do you eat these foods and sweets? • Where do you usually get them? Do you make them? Do you buy them? Where?
Space for notes		
4	If you like to drink soda, what type of you like to have?	• When you have soda, what types do you like to have? • Do you have favorite brands of soda? • How many times a week or a day do you soda? Do you have soda with your meals (for instance with breakfast, lunch, or dinner)?
Space for notes		

Buying or other form of getting food in the family (5 Min)		
Q#	Question	Probes

5	How does your family get ingredients and foods for your meals?	• Who buys the ingredients for your meals?
		• Is there any ingredient that you grow at home? Do you breed animals?
		IF THEY SAY THAT THEY BUY MEALS OR INGREDIENTS THEMSELVES, ASK:
		• What do you look for in the ingredients and foods that you buy?
		  • For you or anyone in your family: Do you think that sometimes it is difficult to make for foods that you consider are necessary to buy? Why?
		  • How far do they have to travel and what transport do they use to acquire the food they buy?

Space for notes		
6	Where do you normally buy or get the ingredients and foods for your family?	• Where do you get the foods that are most common in your home? (for example, tortillas, rice, beans, arepas, bread, etc.) • Do you have a favorite brand or type? (for example, corn tortillas vs wheat flour tortillas) • Where do you regularly get your fruits and vegetables? • Which ones do they buy the most? • Where do you regularly get your sauces, pickles and condiments? • Do you have a favorite brand? • Where do you regularly buy snacks, snacks and desserts? • Do you have a favorite brand?
Space for notes		
7	How do people in your community eat?	• Thinking about what you cook, what you eat, and where you buy it, how different or similar is the way people in your community eat compared to the way you eat at home? • Where do people in your community buy the ingredients and foods for meals? • How far do they have to go? What transport would you say they use?
Space for notes		
8	When you eat outside your home, where do you usually eat?	• When you eat outside your home, where do you usually eat? • When or for what reason do you eat outside of your home? • With whom do you usually go? • What are the places that you most like to go to eat? Which ones do you like but you don't go as often or just can't go at all? • Who would you like to go with?
Space for notes		

Buying or other form of getting food in the family (5 Min)		
Q#	Question	Probes
9	How do you prepare foods at home in your family?	• What is your role in preparing foods at home? • Do you know how to cook? How did you learn to cook?
Space for notes		

10	How do you add flavor? Do you add flavor while you're cooking food or after?	• Do you add any kind of flavoring, seasoning or condiment to your food? • For example, do you normally add salt, spices or sugar to your food? To which? Why?
Space for notes		
11	¿Cómo se sirven los alimentos?	• Once they have cooked and the food is ready, how is the food served at home? • What is your involvement in serving food? • When they eat? • How do they eat? • How much, how much are you expected to eat?
Space for notes		

Activity	Instructions for Activity (20 Min)
12. Social Network Mapping (based on Social Ecological Model)	Guiding questions for moderator reference [Do not read aloud to participants]: Who are the people in participants' social circles? How does information about food and health flow in their social circles? The moderator of the group discussion will be provided with a diagram of the Social-Ecological Model that the moderators will fill out based on the information that participants provide. This diagram will depict five concentric circles, each of which represents an increasingly distant part of a person's community: The center circle represents the individual; the second circle represents their family; the third represents their peers; the fourth represents members of their broader community; and the fifth represents the media (e.g., television, radio, etc.). This network enables researchers to both analyze how information is shared within a community and to analyze which forms of information are important to them. Instructions: **1.** Let's think about the past week or month and focus on the conversations you had about carbonated and sugary beverages (for instance, Coca-Cola) and junk food or with your family about food, just think about your family for now. • What type of conversations about sodas and junk foods did you have with your family? • What type of sodas and junk foods do members of your family eat? When do you have sodas (e.g., at meals, at parties, with guests?) and junk food? • Do you or anyone in your family soda when you don't feel well? Why? What effects does it have? How did you learn this remedy? • What impact does soda have on one's health? • Would you say that it's a difficult topic to discusss in your family or that it's easy? **2.** Now let's think about your friends and your closest circle, that is, the people with whom you live and interact the most, such as your neighbors, co-workers, parents from your children's school. • What type of conversations about sodas and junk foods did you have with your friends and closest circle? • What type of sodas and junk foods do members of your friends eat? When do you have sodas (e.g., at meals, at parties, with guests?) and junk food? • Do you or anyone in your friends [sic] soda when you don't feel well? Why? What effects does it have? How did you learn this remedy? • What impact does soda have on one's health? • Would you say that it's a difficult topic to discusss in your family [sic] or that it's easy? **3.** Now let's go a little further, not just family or friends, but people from the community. For example, it can be a neighborhood leader, a religious leader, teachers, even the owner of the store or market stall, or the cashier at the supermarket. Perhaps these conversations are less common so let's think in general about these types of conversations with other people in the community. • What type of conversations about sodas and junk foods did you have with people in your community? • ¿Cómo habla la gente de tu comunidad sobre los refrescos? Qué importancia, si es que tiene alguna, tiene los refrescos en tu comunidad? • ¿Dirían que es un tema difícil entre familia [sic] del cuál platicar o que es cómodo?

4.	Finally, let us now think about the media, since we also obtain information about food in places such as television programs, on the radio, on social networks, in the newspaper, even in advertisements that we see on the street, painted on the fence, in the billboards or in the public transport. Please, think of concrete examples, for example, instead of talking about "on television", tell me the name of the television program or even the person who appears in the program that for you is an important source of information about food.	
	• Where and when have you seen information about soda and junk food recently? • What was it about? • Did you learn something you didn't know? • Was it only an advertisement or do you also remember seeing advice or recommendations?	
	Finally, let us now think about the media, since we also obtain information about food in places such as television programs, on the radio, on social networks, in the newspaper, even in advertisements that we see on the street, painted on the fence, in the billboar	

Space for notes		
13	Which circle has the greatest influence and relevance for you?	• Which of these 4 circles is the one that really influences you the most when deciding what foods to buy and cook? • Please briefly tell me an example
Space for notes		
14	What does "healthy" mean to you?	• What types of foods do you and people in your community consider to be healthy and not healthy?
Space for notes		

Activity	Instructions for Activity (20 Min)
15. Participants will fill out a short survey, which will be explored via a reflective conversation.	Now we are going to do another activity that will allow us to explore some ideas about body image, it is a survey that you will answer from your cell phone or computer. The survey is very short, it is 7 questions about your ideas about health and body image. When you answer, please do so in the blank space that corresponds to each question on the survey. Remember, there are no right or wrong answers to these questions, answer what you think, that is very valuable for the study. My partner is going to share a league in the chat. Please enter and tell me when you are ready, the question "Please enter the group number indicated by your moderator" should appear. Note to the MODERATOR: Check that all participants were able to enter the survey and indicate the group number that must register and ask them to click the green button to start the survey. Did everyone enter the survey yet? Does anyone have a problem? **Note to the MODERATOR**: Show visual stimulus of the first question or show how the survey appears on the cell phone, and explain the instruction and answer bar of question 1. Figures 1. Stunkard Figure Rating Scale (Stunkard, Sorensen, and Schulsinger, 1983). The image on the screen shows 9 different silhouettes of women with different sizes and body shapes. Can everyone see it?

	Question 1 says: What is the figure that best represents the healthiest body for women? Below is a bar with numbered buttons from 1 to 9. Choose your answer and simply touch the corresponding number button.
	Does anyone have a problem to Access it? Keep responding at your own pace, I'll wait for you here, let me know as you finish.
	Just make sure you click the last green button at the end to send us your answers. There are 7 questions in total.
	1. Please register the group number indicated by your moderator
	2. What is the figure that represents the healthiest body for women? Select the number of the corresponding figure.
	3. What is the figure that represents the healthiest body for men? Select the number of the corresponding figure.
	4. Thinking about the options you chose to represent the healthiest body for women and the healthiest body for men, do you think there are differences between the two figures? What differences do you find between them?
	5. What is the figure that best represents how women are seen in your community? Select the number of the corresponding figure.
	6. What is the figure that best represents how men in your community see themselves? Select the number of the corresponding figure.
	7. From your point of view, what would be the three main ways to achieve a healthy body?
Space for notes	

Wrap-Up (5 Min)		
16	Which circle has the greatest influence and relevance for you?	• What do you consider to be things that help or make it difficult for all children and adolescents in your community or country to have access to healthy nutrition and body image? • What types of approaches do you think could help adolescents in your community or country to have access to nutrition and health?
Space for notes		
17	Which circle has the greatest influence and relevance for you?	Is there anything else you would like to add to this FGD? (If yes, please take notes.) • Thank participants for their time. • Tell participants where they can get more information about the research later. • Ask if they have any feedback on how the discussion was conducted – what could improve it for the next group?
Space for notes		