



CONDUCTING FORMATIVE RESEARCH ON **ADOLESCENT NUTRITION**

Key Considerations



About USAID Advancing Nutrition

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Photo: A group of friends sit atop school stairs in the West Bank. (Credit: Bobby Neptune/USAID)

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Nepali caregiver plays with an infant. (Credit: Dave Cooper/USAID)

INTRODUCTION

Increasingly, both academics and implementers are calling for nutrition programs to focus on adolescent nutrition as an opportunity to improve adolescents' nutritional status—and the health and nutrition of the next generation. The World Health Organization's (WHO) 2018 guideline on adolescent nutrition identified gaps in the evidence base on adolescent behaviors and needs as well as how to tailor programming for targeting adolescents. To help programmers fill these gaps, USAID Advancing Nutrition developed this guidance outlining key considerations for conducting formative research on nutrition behaviors with adolescents. Involving adolescents in designing programs and efforts to inform policy empowers them to make decisions about their own well-being and ensures the applicability of results in communities.

First, we provide background on adolescent nutrition and the use of formative research to inform programs and policies. Next, we outline the purpose of this guidance document and summarize the key considerations for conducting formative research on nutrition behaviors with adolescents. We then describe each consideration in detail. Finally, the annex presents a list of participatory nutrition research methods and resources that describe the methods, and an example of how pretesting can generate useful information when time and resources do not allow for formative research.

WHAT IS UNIQUE ABOUT ADOLESCENT NUTRITION?

The WHO defines adolescence as between 10–19 years of age (WHO 2018). This period can be further divided into early (10–14 years) and late (15–19 years) adolescence. The WHO defines youth as between 15–24 years and young people as 10–24 years. In contexts where the transition to employment, financial independence, and adulthood have been delayed, adolescence extends up to 24 years (Patton et al. 2016). Despite the unique needs and experiences of this age group, adolescents are often overlooked because late adolescence overlaps with the beginning of the reproductive period for women.

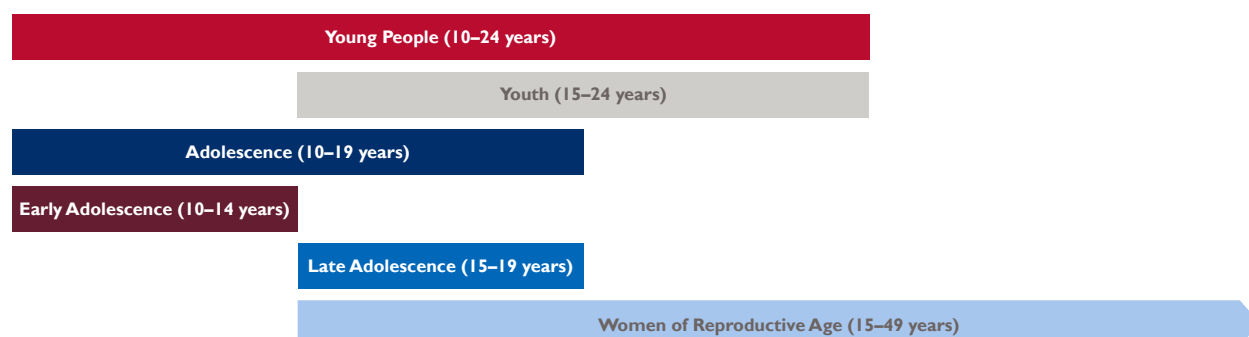
Adolescence is a period of developmental changes. Physiologically, adolescents experience changes such as physical growth, puberty, and sexual maturation (Das et al. 2017). An estimated 50 percent of adult weight and 15–20 percent of adult height is attained during this period (Spear 2002). Psychosocially, adolescents undergo many changes that impact their food choices and intake. They seek independence, attain greater self-awareness, develop concerns with their changing body image, and navigate peer relationships (Story, Neumark-Sztainer, and French 2002). Since adolescence also involves a transition from primary dependence on caregivers to increasingly diverse roles and responsibilities related to food acquisition, preparation, and consumption, it presents a unique opportunity to foster healthy eating.

Nutrition is central to adolescent growth and the realization of human potential. Rapid physical growth and dramatic physiological changes create increased demand for nutrients and energy (Das et al. 2017; Christian and Smith 2018). In low- and middle-income countries (LMICs), 5–23 percent of non-pregnant girls aged 15–19 years and 2–22 percent of boys aged 15–19 years are overweight or obese (Benedict, Schmale, and Namaste 2018).

Similarly, 1–11 percent of girls and 3–22 percent of boys of the same age group are underweight. Anemia is a serious concern during this life stage for 16–54 percent of older adolescent girls and 23–36 percent of older adolescent boys (Benedict, Schmale, and Namaste 2018). The nutritional status of females before and during pregnancy is critical for the health and survival of the mother and her baby; this is particularly important in contexts with high rates of early marriage and pregnancy.

Adolescents frequently have less than optimal eating habits, increasing the risk for nutritional problems, including undernutrition, overweight and obesity, and micronutrient deficiencies such as iron deficiency anemia (Akseer et al. 2017). In LMICs, 40 percent of adolescent girls report skipping breakfast, and, on average, they consume more nutrient-poor foods such as sweet and salty snacks than nutritious foods such as meat, dairy, fruits, and vegetables (Keats et al. 2018). Gender norms around distribution of nutritious food within the household influence dietary intake of adolescent girls. In low-income households of Bangladesh, for example, adolescent girls (and other female members) ate smaller food portions so that income-earning male members could eat more (Blum et al. 2019). Adolescent behaviors involving food choices, eating frequency, and the social context of food consumption are predictive of adult eating practices (Winpenny et al. 2018). In one day, adolescents can be exposed to a variety of food environments in the home, school, workplace, and the formal and informal markets. In addition, adolescents are typically exposed to food marketing in these environments that may influence their food choices. Social media platforms appeal to adolescents' increasing autonomy, social interaction, and identity exploration—and make unhealthy foods seem more desirable (Fleming et al. 2020).

FIGURE 1. IDENTIFYING AND PRIORITIZING ADOLESCENCE



Adolescent nutrition is context specific as adolescence varies in its nature and duration across socio-cultural contexts and socioeconomic groups. Factors such as residence (urban vs. rural), level of education, employment status, and wealth influence food accessibility, intake, and nutritional status (Benedict, Schmale, and Namaste 2018). For example, in Guatemala, adolescents in urban areas reported eating meat (e.g., beef, chicken, hot dogs) while adolescents in rural areas rarely did so (WFP and Anthrologica 2018). In the same country context, malnutrition can manifest in different and extreme forms, such as undernutrition and overweight/obesity. In Egypt, 10 percent of adolescents between the ages of 12 and 15 years are both stunted and overweight or obese (Caleyachetty et al. 2018). Factors at multiple levels influence food choices including (Story, Neumark-Sztainer, and French 2002)—

- **Individual:** psychosocial, biological, knowledge, lifestyles, mobility, access to economic and informational resources, ability to make decisions related to food choice, taste preferences
- **Environment:** sociocultural systems, gender norms, influences of peers, family members and other social groups on food choice, school enrollment, access to food markets and convenience stores
- **Macro:** food availability and affordability, food production and distribution, convenience of obtaining food, media and advertising

Adolescents want a say in decisions that directly affect them. For this reason, it is critical to engage adolescents during the design and implementation of programs and policies that influence their lives. A multi-country adolescent nutrition study showed that adolescents are able and willing to propose viable solutions to overcome barriers to healthy eating (Fleming et al. 2020). Formative research that utilizes participatory methods can be a powerful tool to place the voices of adolescents at the center of nutrition policy-making and programming.

Data gaps on adolescent nutrition are significant. Current understanding of adolescent nutritional status comes from the [Demographic and Health Survey](#), [Global School-Based Student Health Survey](#), and pooled analyses such as the [Global Burden of Disease Study](#). However, these data sources do not capture and/or report information specifically on the adolescent period (10–19 years) (Benedict, Schmale, and Namaste 2018; Caleyachetty et al. 2018; Christian and Smith 2018). Additionally, recent reviews identified a dearth of data on dietary intake among adolescent girls living in LMICs, particularly humanitarian contexts, and a general absence of data for boys (Keats et al. 2018; Zakari et al. 2020). There is also a need to better understand how various factors affect adolescent food choices and contribute to different forms of malnutrition.

Indian schoolchildren gather together for a meal. (Credit: Liam Wright/Smart Food, ICRISAT)



WHY CONDUCT FORMATIVE RESEARCH?

Formative research gathers critical information to inform the design and refinement of projects and interventions.

Formative research is a process that captures information related to the characteristics, perceptions, and behaviors of a specific population and the environment or system within which the population functions (Bentley et al. 2014). The process provides information on how to adjust project design and/or implementation to address key barriers the target population faces in the environmental, economic, and socio-cultural contexts in which they live. Formative research aims to identify what behaviors are practiced—and understand *why* people behave in certain ways. Formative research may involve data collection using qualitative, quantitative, or mixed methods.

Formative research begins with developing or adapting a conceptual framework for the topic of study (CARE 2013). The conceptual framework guides the literature review to understand what is known and unknown about the topic in the context in which the research is conducted. Based on this exercise, research questions are identified to fill knowledge gaps. These questions inform selection of the most appropriate research design and data collection methods. The data collection plan describes how the methods will be operationalized and includes details such as the type and number of participants, recruitment process, data collection tools, training for researchers/enumerators, ethics and confidentiality, data analysis, timeline, and budget. Once the data have been collected and analyzed, findings can be used to design or improve interventions and related materials (CARE 2013).

Because data on adolescent nutrition-related behaviors are limited, formative research can help fill information gaps and determine how to adapt project and intervention design for this life stage.

Formative research should focus on key behaviors related to adolescent nutrition and behavior determinants or drivers.

Formative research is useful to—

- identify and understand the background, attitudes, interests, behaviors, and needs of the adolescents under study
- identify factors that influence adolescent food choices and eating behaviors
- assess the sociocultural context in which adolescents live and how this affects their eating behaviors
- examine effective ways to reach adolescents for a social and behavior change (SBC) strategy (e.g., social media and virtual platforms)
- inform the development of SBC materials
- identify appropriate influencers and platforms for engaging adolescents
- inform the design of system-level (e.g. health, food) interventions.

In some contexts, sufficient information on the questions of interest may be available. Thus, a rigorous desk review of existing resources such as documents both published and unpublished in academic journals and reports of formative research conducted by other programs may be sufficient. Alternatively, a project may not have the time or resources to carry out formative research. **Projects then may consider pre-testing SBC materials developed in another, but preferably similar, context.** For example, for the USAID-funded *Lishe Endelevu* (Sustainable Nutrition) project in Tanzania, formal formative research was not conducted, but adolescent-focused SBC materials developed for the USAID-funded Growth through Nutrition project in Ethiopia were pre-tested in Tanzania revealing findings used to refine the materials and the intervention design (see [Annex 2](#)). To tailor an intervention from another context, such as a product, counseling tool, or educational game, projects can use rapid prototyping from human-centered design approaches to quickly get feedback on and iterate the design of the intervention (IDEO 2015).



Nigerian students line up in school uniforms. (Credit: Ruth McDowell/RTI International)

GUIDANCE PURPOSE AND BACKGROUND

The primary audience for this guidance is program planners and implementers. The purpose of this guidance is to provide an overview of the key considerations for designing and conducting formative research on nutrition behaviors with adolescents in LMICs. Findings from formative research will inform development of effective adolescent nutrition programs. This guidance does not describe all the steps for designing and conducting high quality formative research, but rather focuses on what is unique to designing and conducting formative research on nutrition behaviors with adolescents. As shown in Box 1, resources providing more detailed information on how to design and conduct formative research on nutrition are available elsewhere. While the focus of this guidance is on designing formative research, some decisions depend on the objective of the program (e.g., intended adolescent segment, residence etc.)

We developed this guidance based on best practices and lessons learned from consulting with 13 researchers and project implementers with expertise conducting formative research on adolescent nutrition behaviors across a range of countries in Asia, Africa, the Middle East, North America, and Australia. We supplemented these insights with a desk review of approximately 20 formative research studies with adolescents that focused on or included nutrition and were conducted to inform international development projects. We also reviewed existing guidance documents on conducting formative research on nutrition and with adolescents (Institute for Reproductive Health 2010; 2011; WHO and Johns Hopkins Bloomberg School of Public Health n.d.). While examples of adolescent nutrition formative research in emergency contexts are limited, we believe the lessons from other LMIC settings are applicable in emergency contexts.

Several common lessons and best practices for conducting formative research on adolescent nutrition informed our guidance:

- Focus on key behaviors related to adolescent nutrition and their determinants or drivers.
- Collect data primarily using qualitative, participatory methods, such as cognitive mapping and projective techniques.
- Engage adolescents in formative research using approaches such as Youth-led Participatory Action Research (Ozer 2017) to ensure the research is responsive to adolescent needs and aspirations.
- Tailor data collection to local social and gender norms to ensure adolescents feel comfortable participating and sharing their thoughts (e.g., the choice of location for data collection, using peer interviewers).
- Address additional ethical considerations, including obtaining adolescent assent and parental consent and reducing safety risks.
- Involve data collectors and adolescents in data analysis and interpretation whenever possible.
- Use creative and innovative approaches to share findings with adolescents, communities, and stakeholders.

Based on these findings, this guidance explores the following five key aspects of formative research on nutrition behaviors with adolescents—



Determining formative research objectives



Designing and conducting formative research



Considering ethics and confidentiality



Analyzing data



Disseminating and using findings

BOX 1. EXISTING FORMATIVE RESEARCH GUIDANCE

- Guidance by CARE (2013) and IYCN (2012) for detailed steps on how to conduct formative research for maternal, infant, and young child nutrition
- Focused ethnographic study manuals on vitamin A sources and infant and young child feeding that provide detailed guidance on how to collect data designed to inform interventions (Blum et al. 1997; Pelto et al. 2013).



Malawian teen poses in front of silhouette trees. (Credit: Josh Estey/USAID)



DETERMINING FORMATIVE RESEARCH OBJECTIVES

Key decision points:

- **Select a conceptual framework.**
- **Determine information gaps using a literature review or consultations.**
- **Develop two to three research questions.**

The first step in designing formative research involves selecting or adapting a conceptual framework and identifying information gaps. This enables you to determine the research objectives and questions that the study seeks to address.



I. SELECT A CONCEPTUAL FRAMEWORK

To ensure you can achieve your desired objectives, select a conceptual framework on adolescent nutrition. This will inform development of the project's theory of change and the formative research design and analysis. **The conceptual framework should center on the intended results of the project, such as adolescent eating behaviors, food purchasing behaviors, or knowledge and attitudes about nutrition.** Several useful conceptual frameworks related to adolescent nutrition exist, including [Strengthening Partnerships, Results and Innovations in Nutrition Globally's overall adolescent nutrition framework](#) (Keats et al. 2018), [WHO's framework on intervention pathways](#) (2018), or [Story et. al.'s framework on eating behaviors and food choices](#) (2002). For example, in Indonesia, the Global Alliance for Improved Nutrition (GAIN), PT Kadence

International and the Ministry of Health chose to use Story et al.'s framework to guide their formative research for a project working to improve adolescent eating behaviors. Social and behavior change conceptual frameworks may also be of use, such as the socio-ecological model for change (USAID 2019). Alternatively, the project's theory of change or results framework can be used as the guiding conceptual framework.

2. DETERMINE INFORMATION GAPS

Along each element of the conceptual framework, **identify information gaps related to the project objectives or result areas.** Review existing evidence or consult with experts to understand the nutritional situation of adolescents in the project location and contextual factors that may influence interventions for adolescents. Table 1 presents examples of topics, data, and data sources to include in the data and literature review.

TABLE 1. ILLUSTRATIVE EVIDENCE REVIEW TOPICS, DATA, AND SOURCES

TOPIC	DATA	SOURCES
Demographics	<ul style="list-style-type: none"> Prevalence and average age of adolescent marriage Prevalence and average age of adolescent pregnancy Rates of school attendance (disaggregated by age and gender) 	<ul style="list-style-type: none"> DHS data and DHS Adolescent Nutrition 2000–2017: DHS Data on Adolescents Age 15–19 National statistical reports Data from ministries of women and youth Data from open data repositories such as the USAID Data Development Library and IQSS Harvard Dataverse UNICEF's Multiple Indicator Cluster Survey (MICS)
Diets and nutritional status	<ul style="list-style-type: none"> Prevalence of underweight, overweight, and micronutrient deficiencies for adolescents (disaggregated by age, gender, rural/urban, subnational area) Dietary diversity Micronutrient intake Rates of supplementation Consumption of fortified and fortifiable foods 	<ul style="list-style-type: none"> USAID Advancing Nutrition Adolescent Nutrition Resource Bank Grey and peer-reviewed literature on relevant government policies and programs on adolescent eating behaviors in similar geographic, environmental, and sociocultural contexts UNICEF adolescent research digests Reports and evaluations from donor funded projects, including those housed on the USAID Development Experience Clearinghouse Consultations with country and sector experts and researchers
Behaviors and factors	<ul style="list-style-type: none"> Eating behaviors (e.g., where, with whom, and what adolescents eat at different times of the day) Key determinants or drivers of adolescent eating behaviors, such as— <ul style="list-style-type: none"> Food preferences Nutrition knowledge Influencers for lifestyle and food choices Food purchasing ability and behaviors Primary sources of information, access to media, exposure to advertisements, and social media use Household responsibilities and involvement in income generating activities Leisure and social activities Physical activity Health service seeking behavior 	
Context and norms	<ul style="list-style-type: none"> Key characteristics of food systems, including the food environment, food availability and prices, and policies Food and meal-related norms, such as eating from shared plates, or the order of serving and eating Gender norms affecting adolescents Age and familial norms affecting adolescents Adolescents' position in the household hierarchy and its influence on autonomy and food consumption Physical mobility of adolescents (disaggregated by gender) Legality of adolescent marriage 	



You can use the information gathered through the data and literature review to **map what is known and unknown along the conceptual framework.**

Determine which of these information gaps to prioritize for formative research based on—

- whether the information gaps are feasible to address through formative research, such as complementary qualitative data methods designed to understand adolescent nutrition knowledge and attitudes, adolescent food preferences, body image, food choices, and factors and drivers that influence behaviors (e.g., quantitative estimates of dietary diversity or nutrition status require considerably more time and resources)
- if the information gaps introduce significant uncertainty about the appropriate impact pathway (e.g., gaps related to the linkages within the theory of change or the factors that influence a key intended result)
- if project or intervention design decisions would be significantly influenced by the information gap (e.g., the delivery platform, behavioral drivers to target, or key influencers).

For example, in Indonesia, a GAIN project aimed at improving adolescent eating behaviors, identified snacking behavior as the focus of their formative research based on a review of existing data and reports (Blum, Mellisa, et al. 2019). The literature review illuminated growing rates of obesity in urban centers over the past two decades, particularly among female adolescents and adults, with a third of women over 18 and nearly a tenth of girls in the 16–18 age group reported to be overweight or obese. Data suggested widespread snacking among adolescent females, particularly in older groups of adolescent girls, in urban settings where processed snack foods are inexpensive and prevalent (Blum, Mellisa, et al. 2019).

3. DEVELOP RESEARCH OBJECTIVES AND QUESTIONS

Once the information gaps are prioritized, **determine the primary objectives of the research based on the information gaps that you want to fill.**

The research goals should specify what you aim to learn and how the project could apply the findings. For example, in Indonesia, an objective of GAIN's formative research was to develop an understanding of adolescent girls' aspirations and motivations in order to appropriately frame behavioral change messages around healthy eating (including healthy snacking) within the context of adolescent lives. Engage project staff to reach consensus about the objectives of the research and develop a clear strategy and timeline for how the findings can inform the project or intervention design. Consulting adolescents in this early stage of designing the research objectives can better ensure that the research will be tailored to their needs.

Next, **develop two to three overarching formative research questions** that your work needs to answer (see Box 2) to achieve the research objectives. The research questions should also be relevant and of interest to adolescents to encourage them to engage as key partners in the research. These questions ultimately guide the design of the study.

BOX 2. CONSIDERATIONS FOR DEVELOPING FORMATIVE RESEARCH QUESTIONS

Formative research questions should—

- Address key areas of uncertainty in the project theory of change or the development hypothesis.
- Inform specific project or implementation design decisions.
- Generate the type of evidence required to make these design decisions.
- Be answerable with the time and resources available.
- Fill critical gaps in technical knowledge in the nutrition sector or context.
- Solicit the perspectives of key project participant groups (e.g., adolescents).



Colombian teen prepares to take a picture. (Credit: Katherine Ko/ACDI/VOCA)



DESIGNING AND CONDUCTING FORMATIVE RESEARCH

Key decision points:

- **Determine which adolescent characteristics to prioritize for inclusion in the research.**
- **Choose the most appropriate data collection methods.**
- **Plan for data collection.**

Designing formative research requires determining the participant groups and their characteristics, sampling approach, data collection methods, and data analysis plan. Engage project staff throughout the process to ensure that the research adequately addresses key questions and can inform their decision making. The timing of formative research should align with the implementation and annual work planning cycle in a way that allows for timely application of the findings. Considerations unique to adolescent formative research are discussed below.



I. PRIORITIZE PARTICIPANT GROUPS

Adolescence is characterized by major physical and developmental transitions that vary according to age group, sex, autonomy, and the sociocultural context in which they live. **Determine which characteristics are most critical to answering your research questions and ensure you select participants representative of the project individuals.**

Participant types (e.g., males and/or females, school going and/or non-school-going, married or unmarried, health or disability status) and their characteristics (e.g., socio-economic status, education background, religious background, ethnicity) should be guided by the project objectives and approach, research questions, and findings from the literature review. These categories should determine the participant groups for sampling. Fewer variables and participant groups will make sampling simpler and allow for smaller sample sizes, but may lead to less granular findings.¹ Participants may be recruited from a variety of places and organizations such as school, youth groups, communities, and markets. For example, in Bangladesh, GAIN and The Nielsen Company were interested in learning about the factors that influence eating behaviors among adolescent girls living in low-income households (Blum, Khan, et al. 2019). The formative research sample consisted of three categories of adolescent females in low-income households—school-going, non-school going, and married. To capture the diversity of environments where adolescent girls in

low-income households reside, the research team selected four research sites located in urban and rural settings that differed geographically, topographically, and culturally. Sites included slum communities in the two most populated cities in Bangladesh, a southern fishing and agricultural district located on flood plains, and a northern farming district in one of the poorest regions of Bangladesh (Blum, Khan, et al. 2019).

Input from other types of participants may also be important for the formative research, such as key influencers, family members, community members, or other key influencers. People who influence adolescents' behaviors may include parents, health workers, teachers, and food sellers, among others. Including other types of participants facilitates data triangulation and validation. Consider which types of actors the project intends to engage to help determine additional participant groups. For instance, you may decide to conduct research with pairs of adolescents and their parents if the project approach aims to take a family-based approach to improve dietary practices of adolescents. Because the formative research in Bangladesh led by GAIN sought to explore determinants of food acquisition and consumption, gender influences on intrahousehold food distribution, and household decision-making and responsibilities, researchers included fathers and mothers of adolescent females aged 15–19 years in the study.

¹ Based on available research, data saturation is typically reached after interviews with 6 to 12 participants in a participant category (Guest, Bunce, and Johnson 2006). For focus group discussions, data saturation is typically reached after three to five focus group discussions held with about four to eight participants each per participant category (Namey et al. 2016). If you want to compare participant categories in multiple locations then you should use these minimum sample size estimates in each location (e.g., experiences of adolescent girls in one district versus those in another district). You may want to have higher target sample sizes if you expect a significant amount of variation within the participant categories.

Somalian school soccer team lifts a player in celebration. (Credit: AECOM)





2. CHOOSE APPROPRIATE DATA COLLECTION METHODS

Data collection methods are most appropriate for adolescents if they are engaging, fun, and brief (see Box 3). Participatory methods² are an interactive way to collect data with adolescents, particularly young adolescents. They facilitate engagement and provide a creative space for adolescents to voice experiences in a meaningful way, which may better reflect the “real” perspectives and behaviors of adolescents, instead of what they perceive to be correct. Participatory methods provide the opportunity for adolescents to interact in peer groups, allowing participants to further deepen their understanding and that of others through the questions or topics addressed. Carefully compose groups to minimize response bias from peer pressure. Including a mix of group and individual activities gives adolescents the opportunity to reflect with others and share thoughts specific to their own experience. Participatory methods, group exercises, and peer-led discussions can all be helpful in contexts where adolescent girls are expected to be shy when interacting with adults, although female and male adolescents may need to be separated. Care should be taken to minimize the potential for data collection activities to trigger negative experiences or create an opportunity for inappropriate disclosures in a group.

Data collection activities, particularly those using conventional methods such as individual interviews should be shorter, especially when conducted with young adolescents (10–14 years). Participatory methods, such as drawing or mapping exercises, can be carried out over short timeframes or combined in longer interactive group sessions. Some experts we consulted used longer half day or full day workshop formats when collecting data with adolescents and took care to structure the types and timing of activities to maintain focus, engagement, and energy levels (e.g., a mix of group activities and individual reflection, including energizing break activities). For a study in the West Bank, one expert’s study team held a full day workshop format to minimize the transportation burden on caregivers and adolescent participants with disabilities (personal communication). Others recommended limiting group participatory activities to one hour, interviews to 30–45 minutes, and surveys to 30 minutes.

Conventional qualitative (e.g., semi-structured interviews) and quantitative (e.g., surveys) data collection methods are more appropriate for adult participants. These methods are generally not fruitful when interacting with adolescents unless they are adapted or complemented with other methods. Quantitative data collection with individuals can be adapted for early adolescents (aged 10–14 years) by turning survey questions into games. For example, one successful approach involves a researcher giving adolescents a large, colored dice and asking them to select a card with a question on it based on the color they roll. Likert scale questions can be made interactive, such as by asking an adolescent to run to one tree if they agree or another if they disagree. Adolescents can also be trained to conduct conventional data collection with other adolescents, rather than having adults do so.

It is often beneficial to use a mix of participatory methods or exercises, or combine conventional and participatory qualitative methods. For example, the GAIN study in Indonesia used several strategies for key informant interviews with mothers of adolescents, street food sellers, nutritionists, psychologists, and bloggers. These included in-depth interviews with adolescent females, exercises and rating of food attributes with adolescent females, peer discussions with small groups of friends, dietary timelines, and projective techniques to assess body image using photos of young women with different body shapes (Blum, Mellisa, et al. 2019). Other key considerations when selecting methods include which combination of methods best facilitate data triangulation and the types of resources available to carry out quality data analysis.

BOX 3. TIPS FOR ADAPTING DATA COLLECTION METHODS FOR ADOLESCENTS

- Use a variety of exercises.
- Keep it short and simple.
- Incorporate physical movement into activities or breaks.
- Use elements of games for questions and answers, such as dice, cards, and visual tools/aids.
- Include peers in discussions and activities.
- Facilitate peer-led discussions and activities.
- Organize peer groups by younger and older adolescents, and by gender.
- Include ways for adolescents to express themselves creatively through drawing, photography, video, writing, drama, or music.
- Collect data in a space where adolescents are comfortable expressing themselves.

² Participatory methods draw from approaches such as participatory rural appraisal and participatory action research, which seek to engage research participants in the production of knowledge (Chambers 1994).



The list below provides examples of participatory methods that explore different topics related to adolescent nutrition. See [Annex I](#) for a detailed list of participatory nutrition methods and resources. Selected methods should be tailored to the local context, including literacy levels, gender norms, and cultural sensitivities.



Nutrition knowledge: In Timor Leste, the World Food Program (WFP) and TOMAK (Farming for Prosperity) used a cognitive mapping approach called pile sorting to ask participants to sort cards with names of local foods to indicate the most, moderately, and least healthy (Bonis-Profumo and Meyanathan 2018).



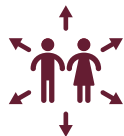
Dietary practices: The 2019 *State of the World's Children* companion report, *Food and Me*, asked adolescents in 18 countries to draw a timeline of what they ate yesterday and applied the NOVA food classification system to assess the level of processed food in their diet (Fleming et al. 2020).



Food preferences: In Indonesia, GAIN, PT Kadence International and the Ministry of Health used a cognitive mapping approach called freelist (i.e., listing all the items participants can think of that relate to a specific topic) to ask participants to name commonly consumed snack foods and their motivations for consuming them (Blum, Mellisa, et al. 2019).



Spending practices: In Tanzania's USAID Lishe Endelevu project, The Manoff Group and Save the Children designed an “Earn and Buy” game to gain insights into what foods and other items adolescents purchase from vendors at school or the market (Clemmons and Marijan 2020).



Influencing factors: In Guatemala, WFP and Anthrologica modified photovoice to allow participants to document their community, daily life, and local food environment using Polaroid cameras (WFP and Anthrologica 2018).



Body image: The Food and Me study encouraged adolescents in 18 countries to talk about how they view their body image, and whether (and why) they would like to change a particular aspect of their body. Using fruits allowed the team to represent different body shapes in a culturally appropriate way (Fleming et al. 2020).



Health service seeking: In Malawi, Save the Children and The Manoff Group used best-friend interviews—an approach where two friends are interviewed together and asked to answer questions about themselves and their friend—to understand health seeking behaviors as part of the School Health and Nutrition project (personal communication).



Physical activity: In Indonesia, UNICEF used the Reality Check Approach whereby researchers lived with the study community over several days to observe when adolescents engaged in physical activity (Reality Check Approach plus and UNICEF Indonesia 2016).



3. PLAN FOR DATA COLLECTION

Choosing appropriate data collectors and providing quality training is critical to ensuring success. There are advantages and disadvantages to using peer and adult researchers. In some settings, adolescents may feel more comfortable opening up with people closer to their age. In these cases, adolescents can be trained to lead peer discussions, conduct interviews with other adolescents or adults, or observe eating or shopping practices among peers. To ensure adolescents can carry out quality data collection and documentation, provide tailored training and support throughout the process. Alternatively, adolescents may feel proud or special to have the opportunity to answer questions from adults. However, in certain sociocultural contexts, power imbalances may influence adolescents' willingness to share information and open up, which can introduce response bias. Additional training may be needed to ensure that data collectors can build the rapport and trust needed to prevent response bias. Consider characteristics of the adult data collectors that may facilitate rapport. For example, adolescent girls may feel more comfortable with female rather than male adults and young adolescents may feel more comfortable with adults from their community rather than outsiders.

Whether data will be collected by adolescents or adults, provide training and choose data collection methods that are appropriate for the skillsets of the data collectors. Mock data collection exercises and the provision of data collection manuals, can help reduce response bias and ensure quality data collection. Adolescents need training that is tailored to their background and skillsets (e.g., literacy level). All data

collectors likely need in-depth training to understand how to collect and document quality qualitative data using participatory methods. If training time is in short supply, adapt conventional data collection methods instead of participatory methods. For instance, best-friend interviews are a productive way to interview adolescents using standard interviewing techniques. Alternatively, techniques like freelist or including vignettes in conventional semi-structured interviews or focus group discussions can incorporate participatory techniques into conventional data collection methods (see [Annex 1](#)). Training should also cover how to document and record the data collected, since participatory methods can be more complicated to document (see [Analyzing Data](#) section).

Reduce potential social desirability bias³ by conducting data collection in a location where adolescents will share thoughts openly.

Adolescents may feel comfortable at home, in community spaces such as markets or where they play sports or engage in other leisure activities. Locations where prescribed behaviors or “correct” responses are expected, such as religious institutions or schools, are not ideal places to collect data. For example, the USAID-funded Suaahara II (Good Nutrition) project in Nepal found that younger adolescents were more likely to share their preference for packaged noodles when interviewed outside of school—because they had learned at school that packaged noodles are not healthy (personal communication). Locations and interactions which may increase the risk of social desirability bias are context specific, so input from local teams can help minimize this risk.

³ Social desirability bias is when a participant answers questions with a response that they perceive to be socially acceptable or correct, rather than what they actually think or do (Lavrakas 2008).

Group of young Egyptian volunteers sing for an awareness campaign. (Credit: Mohamed Ezz Aldin/UN Women)





Three Senegalese teens enjoy yogurt cups. (Credit: Stéphane Tourné/Engility)



CONSIDERING ETHICS AND CONFIDENTIALITY

Key decision points:

- Identify rules related to conducting research with minors in the research context.
- Take appropriate precautions to minimize safety and security risks specific to minors.

Formative research with adolescents must consider the additional potential risks and ethical protections needed to conduct research with minors.



I. IDENTIFY RULES FOR CONDUCTING RESEARCH WITH MINORS

Adolescent minors are generally considered a vulnerable population requiring additional human subjects protections. In most countries, the legal age of majority when minors assume legal control over their persons, actions, and decisions is 18 years. However, in almost a quarter of countries, women's marriageable age is younger than that of men, and yet girls often lack the ability to make independent choices before they reach 18 years of age. In some contexts, adolescents who are married or have children may be considered emancipated and not require additional protections. Institutional Review Boards (IRB) in the United States and ethical and research review boards in the country of research (e.g., the Ministry of Health or local university research or ethical review boards) outline these requirements for conducting research with adolescents and obtaining informed consent or assent (see Box 4).

Rules around informed consent from adults, assent from minors, and the need for parental consent vary from country to country. The legal age for adults dictates whether participants can provide informed consent. For example, in Indonesia, the legal adult age is 15 years, so the GAIN team used an informed consent form for all types of study participants (Blum, Mellisa, et al. 2019). If your study includes minors, you will likely need to develop an assent script or form for the minors in addition to an informed consent script or form for parents/guardians. Consent with parents/guardians needs to be obtained before getting assent from adolescents who are minors. For assent, minors need to be told that their parents know they are participating in the research.

U.S. IRB and in-country research guidelines also need to be consulted. Typically, formative research with adolescents needs to go through an ethical review by an IRB or ethical review board. These reviews help to ensure critical international and national guidelines regarding enrollment, informed consent procedures, and confidentiality are followed and that the rights of adolescent participants are protected. In addition to obtaining formal approvals, it is imperative to inform local government officials and influential leaders (e.g., village chiefs, religious leaders) about the purpose of the research and procedures involved. Engaging with adolescents is more sensitive than with adults, so following these practices is particularly important (see Box 5).

BOX 4. INFORMED CONSENT VS. ASSENT

Informed consent is an individual's decision whether or not to participate in research based on understanding the purpose of the research, risks and benefits involved, and that it is entirely voluntary.

Minors, by definition, cannot provide informed consent. Once parents or guardians provide informed consent, minors provide assent, which is their agreement to participate in research.

Source: Office for Human Research Protections 2017

Ethiopian woman prepares a pot of hot tea. (Credit: Morgana Wingard/USAID)





2. MINIMIZE SAFETY AND SECURITY RISKS

Working with adolescents requires careful attention to minimize risks to their safety and security. Protecting the safety of participants must always be a priority. Reference checks and background checks should be completed for all data collectors to ensure they do not have a history that would make them unsuitable for the work. Methods that involve one-on-one interactions with adolescents should not be carried out in private. This may mean conducting research in public spaces or in a shared family space, rather than going into a room and closing the door as is often the approach for interviewing an adult. If the data is collected during a workshop, at least two adult facilitators should be present to ensure safety. While you may need to adjust procedures so parents are comfortable with research involving their children, parents should be discouraged from accompanying adolescents into the sessions as this may introduce bias. For example, in Guatemala, WFP and Anthrologica found caregivers were reluctant to have adolescent girls participate in data collection individually. To overcome this, researchers engaged the whole family by explaining the purpose of the study and interviewing other family members first (WFP and Anthrologica 2018).

Data collectors also need to be trained on confidentiality considerations with minors. There may be situations where parents are uncomfortable not knowing what was discussed during data collection. In addition, data collectors should be given guidance on what to do if abuse is disclosed by study participants. Further, data collectors should be trained on how to facilitate discussion of sensitive issues with adolescents. To avoid triggering negative emotions, researchers at Western Sydney University used projective techniques involving scenario-based activities that prompted participants to think about how “Person X” might respond in a certain scenario, rather than asking about personal experiences (Fleming et al. 2020)

BOX 5. CHECKLIST OF ETHICAL CONSIDERATIONS

1. Ensure data collection with adolescents is necessary and justified.
2. Consult with community leaders or groups to determine approvals needed and sensitize the community about study.
3. Submit study to appropriate ethical or research review boards in the country of work and in the US.
4. Anticipate adverse consequences and make plans to ensure adolescents’ safety and security.
5. Obtain informed consent from parents or guardians and assent from adolescents.
6. Review local laws and regulations to determine the age of adults and definition of emancipated minors.

Source: Schenk and Williamson 2005

Three Zambian boys smile for the camera. (Credit: Amy Fowler/USAID)





Somalian student receives a hot meal at school. (Credit: Karel Prinsloo/WFP)



ANALYZING DATA

Key decision points:

- **Prepare the data for analysis.**
- **Collaboratively analyze data.**
- **Validate findings with adolescents and stakeholders.**

Tailor your data analysis approach to your research objectives and data collection methods. Below we describe ways you may need to adapt the data analysis approach when conducting formative research with adolescents.



I. PREPARE THE DATA FOR ANALYSIS

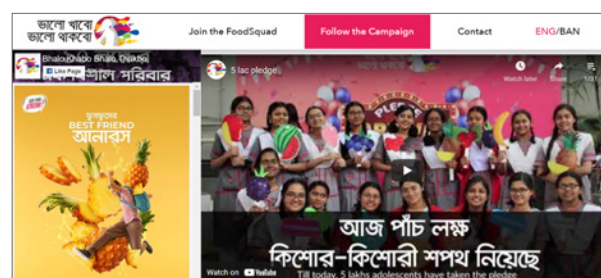
If you use participatory methods, carefully consider how to document the data in preparation for analysis. Participatory methods often generate a lot of data, but some may be unstructured or audio-visual. Structured templates can be a useful way to record the most essential information collected from participatory exercises. Notes and transcripts may not appropriately capture the outcomes of participatory exercises like ranking, sorting, and drawing exercises or observations (e.g., participants' behaviors in everyday environments, or their body language during data collection). Methods that produce visual data such as drawings, photos, or sketches require some sort of debriefing or explanation by the participants to ensure that the researcher understands what the data represent. To ensure researchers properly interpret results, label the drawings with what the participant intended to draw during that debrief (e.g., which foods are represented). While participatory methods often generate useful information from adolescents, visual data produced can be more challenging to analyze than standard interview or focus group discussion notes or transcripts. Consider how data will be coded and analyzed when determining the format to use to document data (e.g., by hand, in Excel, or in a qualitative data management software like NVivo, ATLAS.ti, MaxQDA, or Dedoose). Cognitive mapping procedures, such as freelists, pilesorts, and ratings, can be analyzed on Visual Anthropac, a program available free of charge online.

2. COLLABORATIVELY ANALYZE DATA

Because formative research aims to inform project and intervention design, project staff should be involved in data analysis and interpretation to ensure their utility for programming. Involving project staff in brainstorming sessions, workshops, or debriefs can help to generate buy-in among staff about the findings, ensure the research team produces insight useful to the project, and give the research team insights on how to communicate the findings. Share research findings with all levels of staff involved in design, development, and implementation of the project as early as possible—their insights will likely be helpful in interpreting results.

Involving adolescents in data analysis builds trust in the research and adds valuable insights to the data interpretation. Participatory analysis methods can involve adolescents in the data interpretation and meaning-making processes—and ensure adolescents' voices are heard. Adolescents can be engaged in analysis individually or through groups. For example, in Bangladesh, GAIN worked with a partner adolescent organization called Shornokishoree Network Foundation to collaboratively design an engagement strategy. Adolescent members in the organization, with support from a local agency, designed a social and behavior change (SBC) communication campaign called *Bhalo Khabo Bhalo Thakbo* (Eat Well, Live Well) and the visual identity for the campaign. The campaign encouraged adolescents to take a pledge to change their own purchasing and snacking behaviors and share the pledge with their friends (see figure 2).

FIGURE 2. MULTIMEDIA CONTENT ON BHALO KHABO BHALO THAKBO WEBSITE



Source: Bhalo Khabo Bhalo Thakbo (Eat Well, Live Well) website: <https://bhalokhabobhalothakbo.com>

3. VALIDATE FINDINGS

Findings should be validated with stakeholders and adolescents whenever possible. This can be done through workshops or focus group discussion. Sharing the findings with participants, other adolescents, and relevant stakeholders is not only an important way to validate findings, but also to generate buy-in and engagement for your project. Obtaining input from adolescents and the community about the validity and relative importance of different findings can help project staff to determine how to apply the findings to their project. Project teams should aim to hold these sessions even if it is only possible to carry out one or two sessions with groups of stakeholders and adolescents. This can be done during the analysis processor later to vet near-final findings.



Two Bangladeshi girls hold a plate with pictures of food. (Credit: Saikat Mojumder/FAO)



DISSEMINATING AND USING FINDINGS

Key decision points:

- **Determine how to best use the findings to inform project and intervention design.**
- **Plan to disseminate the findings to adolescents and stakeholders.**
- **Share findings creatively and innovatively.**

The goal of formative research is to inform project and intervention design. Projects and researchers need to collaborate to determine how to apply findings to the project activities. It is also necessary to disseminate the information to key decision makers (e.g., project staff, government stakeholders, community leaders, donors) to facilitate uptake of the findings and generate buy in for the project.



I. USE FINDINGS TO INFORM DESIGN

Share and discuss findings with project staff to determine how results can be best applied.

Researchers should synthesize findings that are practical and relevant for project teams (see Box 6). Holding debrief sessions or workshops internally can help teams determine how to appropriately apply the findings. To ensure buy-in, these discussions should take place with staff at all levels of the project, not just among leadership, the monitoring and evaluation team, or staff based in headquarters or a capital city. For example, in Indonesia, GAIN held a two-day workshop with implementing partner staff and consultants, the local research organization, and a creative agency to prioritize messages for SBC campaigns based on the research findings (see Box 7). Additionally, programs may ask adolescents how the formative research findings can be best used and/or communicated.

Even after designing the program and/or materials with program staff and adolescents, it is vital to continue seeking feedback from adolescents to refine and adapt the program and/or materials. For example, after the USAID-funded Suaahara II project in Nepal designed a pilot adolescent nutrition activity based on formative assessment of their adolescent panel dataset (Cunningham et al. 2020), the USAID-funded Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING) project provided technical assistance to the project to further develop key messages, lesson plans, and visuals, and interactive activities and games for students to engage with during peer-led sessions for a school-based adolescent health and nutrition curriculum targeting middle school children. Two years later, USAID Advancing Nutrition provided follow-on technical support by visiting two schools in Dailekh district to learn from implementation of the curriculum materials. This visit revealed that while adolescents seemed to have difficulties executing some of the activities as described in the curriculum, the adolescents had adapted the materials and its content in creative and unexpected ways such as asking local shops to offer water purification materials, advocating delay of marriage for female siblings, and developing a song that built upon the curriculum messages. This finding encouraged revisions to the curriculum to add creative, open-ended exercises with the material.

2. DISSEMINATE FINDINGS TO ADOLESCENTS AND STAKEHOLDERS

Disseminate the findings to key target audiences based on the research objectives and findings. Audiences to consider include—

- research participants
- adolescents living in the program area, particularly those who can act as project champions
- people (e.g., parents, teachers, health providers, etc.) influencing adolescent attitudes, beliefs, and behaviors
- government officials, implementing partners, and other stakeholders involved in adolescent policy, program activities, and interventions
- people involved in program design, development, and implementation.

BOX 6. SYNTHESIZING DATA TO INFORM PROGRAMMING

Formative research findings can provide practical insights to help program implementers design effective SBC and nutrition behavior change interventions. The following are features of successful SBC campaigns:

- appeal to the senses (sight, smell, hearing, touch, taste) in an interactive way
- focus on instincts and emotions
- innovate to grab people's attention, surprise, and make the message memorable
- aim to be fun, enjoyable, and social
- appeal to the immediate situation, making the message easy to grasp, practical, and relatable
- make people feel good about themselves
- use simple, unambiguous messaging, focused on attainable behavior change (small steps)
- make improved behavior part of social norms, habits, or routines
- use social pressure to change behavior.



3. SHARE FINDINGS CREATIVELY

Package the findings according to the background of the target audiences, including their access to and preferred communication channels, educational backgrounds, and how they will use the information. All findings should be de-identified to protect the anonymity of individual participants. Creative, innovative approaches should be prioritized because they engage audiences and make insights memorable. Even if a report is being developed for the donor, consider additional accessible, practical ways to present the information to internal and external audiences. Creative and visual ways to share data include—

- creative briefs (e.g., similar to what an ad agency might produce)
- audience or behavioral profiles
- decision trees or process diagrams
- infographics
- short videos or animations
- one page fact sheets
- PowerPoint presentations

Dissemination of findings with government officials and other stakeholders can use more traditional approaches, such as dissemination workshops, briefs, and reports. Facilitating interaction and discussion encourages listeners to think about how findings should be applied.

BOX 7. EXAMPLE: FINDINGS FROM GAIN STUDY IN INDONESIA

In Indonesia, GAIN and the local implementing partner hired a creative agency to develop a behavior change strategy. The research agency developed a final report and slide deck presenting the research findings. Key findings revealed that—

- Adolescent girls snack multiple times daily on foods high in sugar, salt and fat, leading to meal skipping.
- The motivation to snack is primarily driven by the exotic flavors and alluring tastes offered by cheap, unhealthy snacks saturating Javanese cities.
- Snacking serves as an antidote to boredom and loneliness and is considered central to socializing.
- Adolescent girls have limited understanding of snack food contents or concerns about the negative effects of snacking.
- Parents facilitate acquisition of nutrient-poor snacks, while friends exert pressure for routine consumption of snack foods.
- Social media infiltrated with promotions of eateries and snack foods contributes to the preponderance of snack food consumption.
- Unless trends of excessive snacking and meal skipping are addressed, there will likely be a further rise in overweight and obesity among female adolescents and adults.

Sri Lankan artists decorate a school campus with a mural. (Credit: IFES)



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ANNEX I. PARTICIPATORY NUTRITION DATA COLLECTION METHODS

METHOD	DESCRIPTION AND USE	REFERENCES
Best-friend interview	<p>Description: Similar to in-depth interviews, best-friends respond to questions posed by a facilitator about their friends' beliefs, attitudes, lifestyle, and behaviors—particularly related to food. Participants may correct or amend inaccurate information their best friend provides during or after the interview. At the end of the interview, participants' explanation for the information collected can generate additional insights on eating choices and behaviors.</p> <p>Purpose: Understand knowledge, attitudes, behaviors, perceptions, norms, and rationale surrounding food-related behaviors and factors influencing food consumption. The approach attempts to disrupt the power imbalances between the researcher and the participants.</p> <p>When to use: Contexts where adolescents are less willing to open up and share information about themselves</p>	<p>Method and Example: Feed the Future Growth Through Nutrition Activity. 2017. "Adolescent Girls' Diet and Nutrition Practices and Their Determinants. A Report on Formative Research Findings and Recommendations for Social and Behavior Change Communication Programming." Accessed January 15, 2021. https://gtl-learning.nutrition.tufts.edu/index.php/node/339</p>
Peer-led dyad discussion	<p>Description: Similarly to in-depth interviews, the discussion is led by a peer and conducted with two friends within his or her social network. The approach has generated rich information on how people think about and behave in relation to food.</p> <p>Purpose: Understand knowledge, attitudes, behaviors, perceptions, norms, and rationale related to food choices and behaviors. The approach addresses challenges related to the power differentials between the researcher and the participant that can inhibit or bias responses.</p> <p>When to use: Effective when gathering information related to personal or sensitive issues</p>	<p>Method: Options. n.d. "Participatory Ethnographic Evaluation and Research (PEER)." Accessed January 15, 2021. https://options.co.uk/peer</p> <p>Example: Sustainable Action for Resilience and Food Security (SABAL). 2018. "Formative Research on Adolescent Health and Nutrition in Udaypur District of Nepal!"</p>
Reality check approach	<p>Description: The researcher lives with the study participant over several days to gather data about food behaviors and intake through observations, conversations, and experiences. Information is collected in the natural living space where the study participant conducts daily activities.</p> <p>Purpose: Gather information on processes, motivators, behaviors and norms in the sociocultural context and food environment in which study participants live and eat. Provides a deeper understanding of actual practices and the context in which behaviors take place.</p> <p>When to use: Gain an insider's view of issues or problems which cannot be understood adequately without observation.</p>	<p>Method: Reality Check Approach Community of Practice. n.d. "What Is Reality Check Approach (RCA)?" Accessed January 15, 2021. http://www.reality-check-approach.com/what-is-rca.html</p> <p>Example: Reality Check Approach plus and UNICEF Indonesia. 2017. <i>Perspectives and Experiences of Adolescents on Eating, Drinking and Physical Activity</i>. Jakarta: Palladium Group and UNICEF Indonesia.</p>
Freelisting	<p>Description: This cognitive mapping technique asks participants to name food items they consume. Once an initial list is gathered, probing questions can help establish a more comprehensive inventory (e.g., seasonal variation, eating during holidays and special events). Lists can be collected on other food related topics, such as food attributes or motivations for consumption or specific types of foods, such as snacks.</p> <p>Purpose: Create a working inventory of food names and categories, the importance of specific food items, the frequency by which they are consumed, and local food terminology.</p> <p>When to use: Elicits information on local foods and associated terminology.</p>	<p>Method: Blum, L, Pertti J. Peltó, Gretel H. Peltó, and H.V. Kuhnlein. 1997. <i>Community Assessment of Natural Food Sources of Vitamin A</i>. Ottawa, Canada and Boston, MA: International Research Centre and International Nutrition Foundation for Developing Countries.</p> <p>Example: Blum, Lauren S., Ayu Mellisa, Eny Kurnia Sari, Isma Novitasari Yusadiredja, Marti van Liere, Susan Shulman, Dobby Izwardy, Ravi Menon, and Alison Tumilowicz. 2019. "In-depth Assessment of Snacking Behaviour in Unmarried Adolescent Girls 16–19 Years of Age Living in Urban Centres of Java, Indonesia." <i>Maternal & Child Nutrition</i> 15 (4). https://doi.org/10.1111/mcn.12833.</p>

Pile sort	<p>Description: This cognitive mapping technique presents cards with names or pictures of foods and asks the participant to place the cards into groups according to similarities (i.e., the way they belong together) and differences in the foods.</p> <p>Purpose: Gather perceptions regarding relationships between foods and how they relate to eating patterns</p> <p>When to use: Elicits information on local food categories and dimensions.</p>	<p>Method: Blum, L, Pertti J. Peltto, Gretel H. Peltto, and H.V. Kuhnlein. 1997. <i>Community Assessment of Natural Food Sources of Vitamin A</i>. Ottawa, Canada and Boston, MA: International Research Centre and International Nutrition Foundation for Developing Countries.</p> <p>Example: Bonis-Profumo, Gianna, and Sarah Meyanathan. 2018. <i>Adolescent Nutrition in Timor-Leste: A Formative Research Study</i>. Dili, Timor-Leste: World Food Program (WFP) and TOMAK.</p>
Diagnostic role play	<p>Description: Participants act out typical beliefs, attitudes, and behaviors related to food consumption or other activities adolescents engage in a given context. Following the simulation, participants and observers debrief about what they have seen and heard, and how they feel about the information conveyed.</p> <p>Purpose: Illustrate common attitudes, motivations for habitual behaviors, and social norms in the lives of adolescents and people influencing them. The role play stimulates discussions among participants and observers to identify feasible solutions to problems and improve behaviors associated directly (or indirectly) with food intake.</p> <p>When to use: Because this projective technique builds on information collected earlier in the formative research, researchers gain a more in-depth understanding about key concepts that emerge.</p>	<p>Method and Example: The Manoff Group. 2004. "Guide to Diagnostic Role Play." Accessed January 15, 2021. https://www.manoffgroup.com/wp-content/uploads/DRPgguide.pdf</p>
Photovoice	<p>Description: The participant is given a camera to take pictures documenting specific issues related to food and eating in their environment. Participants share the photos and describe their significance in the context of eating.</p> <p>Purpose: Document and reflect upon community resources and social issues that may affect food consumption.</p> <p>When to use: Facilitates dialogue between adolescents and community members, allowing adolescents to express their views and to influence decisions.</p>	<p>Method: Rutgers. n.d. "Photovoice Facilitator's Guide." Accessed January 15, 2021. https://www.rutgers.international/photovoice</p> <p>Example: Trübswasser, Ursula, Kaleab Baye, Michelle Holdsworth, Megan Loeffen, Edith Jm Feskens, and Elise F. Talsma. 2020. "Assessing Factors Influencing Adolescents' Dietary Behaviours in Urban Ethiopia Using Participatory Photography." <i>Public Health Nutrition</i>, August, 1–9. https://doi.org/10.1017/S1368980020002487.</p>
Drawing (timeline, graffiti, body image)	<p>Description: The participant draws her/his thoughts, ideas, and feelings related to adolescent activities, including food consumption. Participants are asked to develop timelines related to habitual activities or food consumption over a specific time frame. A subsequent discussion of the drawing provides others the opportunity to understand the meaning of items included.</p> <p>Purpose: Understand emotions, motivations, behaviors, and norms in the context in which adolescents live.</p> <p>When to use: Transcends communication barriers by encouraging the expression of more nuanced depictions of concepts, feelings, and behaviors in a creative and personally relevant manner.</p>	<p>Method: Literat, Ioana. 2013. "A Pencil for Your Thoughts: Participatory Drawing as a Visual Research Method with Children and Youth." <i>International Journal of Qualitative Methods</i> 12 (1): 84–98. https://doi.org/10.1177/160940691301200143</p> <p>Example: Fleming, Catharine A.K. et al. 2020. <i>Food and Me: How Adolescents Experience Nutrition across the World</i>. Sydney: Western Sydney University and United Nations Children's Fund (UNICEF).</p>
Vignettes or scenarios	<p>Description: The participant is given a vignette or scenario reflecting a situation related to the topic of study. Informants are asked a series of questions related to the storyline and to give advice regarding food acquisition and consumption.</p> <p>Purpose: Understand beliefs, decision making, behaviors, and social and gender norms.</p> <p>When to use: Identify terminology and concepts associated with food and eating. Reduces inhibitions adolescents may experience when talking about themselves.</p>	<p>Method: Blum, L, Pertti J. Peltto, Gretel H. Peltto, and H.V. Kuhnlein. 1997. <i>Community Assessment of Natural Food Sources of Vitamin A</i>. Ottawa, Canada and Boston, MA: International Research Centre and International Nutrition Foundation for Developing Countries.</p> <p>Example: Fleming, Catharine A.K. et al. 2020. <i>Food and Me: How Adolescents Experience Nutrition across the World</i>. Sydney: Western Sydney University and United Nations Children's Fund (UNICEF).</p>

<p>Projective techniques assessing body image</p>	<p>Description: Show the participant pictures or images as stimuli (e.g., presenting photos of adolescent girls with different body shapes and size). The study participant is asked a series of questions (e.g., describe the way the girls in the photo look, what activities they are engaged in, and what they likely eat). The participant can also be asked which girl in the photo meets her body goals.</p> <p>Purpose: Uncover hidden emotions around a given topic, in this case body shape.</p> <p>When to use: Help people discuss perceptions beyond their immediate conscious awareness, which influence their food choices, eating behaviors, and exercise regimes.</p>	<p>Method: Boddy, C.R. 2005. "Projective Techniques in Market Research: Valueless Subjectivity or Insightful Reality? A Look at the Evidence for the Usefulness, Reliability and Validity of Projective Techniques in Market Research." <i>International Journal of Market Research</i> 47 (May). https://doi.org/10.1177/147078530504700304</p> <p>Example: Fleming, Catharine A.K. et al. 2020. <i>Food and Me: How Adolescents Experience Nutrition across the World</i>. Sydney: Western Sydney University and United Nations Children's Fund (UNICEF).</p>
<p>Social mapping, community walks</p>	<p>Description: Informants are asked to work together to draw maps of their community, including major structures, landmarks and networks. Mapping can include topics of interest related to food, such as where food acquisition and consumption takes place and the types of food available. A walk through the community with local members can provide valuable supplementary information.</p> <p>Purpose: Gain information about the community, its social structures, institutions and networks, as well as key locations where foods are obtained and eaten from the perspective of informants.</p> <p>When to use: To understand the spatial distribution of structures and their relevance to food acquisition and eating.</p>	<p>Method: Pelto, Pertti J. 2016. <i>Applied Ethnography: Guidelines for Field Research</i>. 1st edition. New York: Routledge.</p> <p>Example: WFP and Anthrologica. 2018. "Formative Research to Inform Adolescent Programming in Guatemala. Engagement for Health, Nutrition and Sustainable Development. Full Report—March 2018." Accessed January 15, 2021. https://docs.wfp.org/api/documents/WFP-0000100060/download</p>
<p>Food diaries</p>	<p>Description: Individuals record regular, personal, and contemporaneous reports of food consumption, with entries made at fixed time intervals. Possible responses may include what, how much, when, with whom, where, the activity engaged in when eating, and the mood when eating.</p> <p>Purpose: Provide information on food consumption as it occurs.</p> <p>When to use: Decreases memory errors and increases data accuracy and reliability in the natural environment where eating takes place.</p>	<p>Method: Alaszewski, Andy. 2006. <i>Using Diaries for Social Research</i>. 1st edition. London: SAGE Publications Ltd.</p> <p>Example: Joosse, Sofie, and Matilda Marshall. 2020. "Fridge Stories and Other Tales from the Kitchen: A Methodological Toolbox for Getting Closer to Everyday Food Practices." <i>Food, Culture & Society</i> 23 (5): 608–26. https://doi.org/10.1080/15528014.2020.1778921.</p>

ANNEX 2. PRETESTING SBC MATERIALS INSTEAD OF CONDUCTING FORMATIVE RESEARCH

Although the insights gained through formative research can be helpful in developing evidence-based strategies and SBC materials, sometimes projects do not have enough time or funds available for research. USAID Lishe Endelevu, a nutrition activity in Tanzania, developed adolescent nutrition SBC materials by pretesting existing materials.

USAID Lishe Endelevu adapted the SBC materials on adolescent nutrition developed by the USAID Feed the Future Growth through Nutrition activity in Ethiopia. Growth through Nutrition shared the same goal of improving dietary diversity of adolescent girls, and both programs implemented many of their adolescent nutrition interventions through public schools. Growth through Nutrition conducted, designed, and implemented formative research with adolescent girls, their parents, and community leaders to better understand the socio-cultural influences (barriers and motivators) on adolescent nutrition behaviors. The findings and recommendations from this formative research informed the development of an evidence-based set of adolescent nutrition SBC materials for adolescent girls and boys in Ethiopia. The materials included posters, a discussion leaflet, and three games. Growth through Nutrition monitoring and assessment activities revealed that these SBC materials improved adolescents' nutrition awareness, knowledge, and skills.



The Lishe Endelevu activity adapted the adolescent nutrition SBC materials developed by Growth through Nutrition in Ethiopia, using the following process:

- **Translate** the SBC materials from Amharic to Swahili.
- Hire an artist to **modify illustrations** in the materials, including people's clothing, facial features, skin color, foods, and meals.
- **Pretest** the SBC materials—assessing participants' comprehension of the materials; the materials' appeal/attractiveness, credibility, relevance and appropriateness; and whether/how participants would use the materials in the future. Lishe Endelevu included additional prompts and questions in the pretest instruments to gain insights into their influence on girls' nutrition-related behaviors, including their relationships with their parents and friends. The pretest comprised nine focus group discussions with adolescents (in and out of school), their mothers, teachers, and community health workers (Clemmons and Marijan 2020).
- **Revise** and finalize the SBC materials based on the pretest findings. Project staff then formally presented the SBC materials to the Ministry of Health in Tanzania for technical review, feedback, and final approval.

A group of adolescent girls in Tanzania play the “Hookworms and Ladders” adolescent nutrition skills-building game, designed in Ethiopia, during a pretest. (Credit: Lydia Clemmons/The Manoff Group)



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