

*Last Updated: January 12, 2024*

**Nutrition 210: Survey Research in Nutrition**  
**Spring Semester, 2024**  
**Fridays 9am – 12pm, Jaharis Room 105**

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**General Introduction**

Office hours: Feel free to get in touch to discuss anything related to a particular assignment, the class in general, or anything else that might affect your academic life. We are happy to meet at any time that is convenient, or just email if you have a question or something you would like to discuss.

Expectations for the course: I don't take attendance, but I'd like to think attending the class will benefit you and the other students in the class. I encourage discussion. Remember, if you have a question, chances are others do too, so don't hesitate to ask. Students come to the class with a wide range of experiences; contributing diverse opinions and learning from each other is central to the goals of the course. To the extent that potentially sensitive topics are addressed in class, I ask that you be open minded and respectful while feeling free to provide your own perspectives.

Assignments are due before midnight on Thursday before the Friday due date (so you won't be distracted during class). Most assignments are part of your final project, which is done in groups. Getting these drafts allows me to give feedback (ungraded) before the final project is due, and it gives me insight about any points that may need to be clarified in class. You should come to class having read the readings that are listed for that session.

**Course Goals:**

This course presents methods of designing and implementing field studies in the various disciplines that affect nutrition. At the end of the course, students should be capable of designing a quantitative field study related to nutrition or food consumption, its determinants and correlates, and the effectiveness of interventions. A secondary objective is that students will understand potential threats to the validity and

reliability of field studies and will therefore become more critical and intelligent consumers of research results.

As part of this course, students will develop a plan for a field survey. We will divide into teams of three, and each team will choose an appropriate topic and prepare the appropriate section of the survey and submit it (*in most cases*) the week after we discuss that component in class. All drafts will be returned no later than the following class. (NOTE: these drafts will not be graded, but failure to turn them in will affect your grade.)

The **'term paper' final assignment** is a **completed survey plan**. An appropriate topic is one that makes suitable use of survey research methods, addresses a research question or problem whose answer would be useful and relevant to the field, and for which a focus group or open-ended interview and pretest of the questionnaire can feasibly be conducted within the period and context of the class. (In most years, that means locally, so the focus group can be conducted in person. As we have all learned to use remote meeting platforms like Zoom, qualitative formative work may be done remotely.) Students will choose topics and form teams during the second week of class. You should post your ideas on Canvas, and then identify which topics you would like to address in the class project. We will discuss in class.

Examples of survey plans from previous years are posted on Canvas. Please use them as a resource to indicate the level of detail expected.

*Note: The planned survey does not have to be based on hypothesis-driven research. For example, it can address an exploratory research question, situational assessment, evaluation, or it can relate to an expected internship or job. It must be (at least in part) quantitative and involve collection of primary data.*

The **Survey Plan** includes the following sections.

1. **Statement of the research problem.**
  - Explain the question and why it matters (that is, answer the "so what?" question).
2. **Review of the relevant literature.**
  - This should demonstrate that you are familiar with relevant research (or evaluations or other types of studies as relevant) done in the context of your study area.
3. **Statement of the specific research hypothesis or research question.** - Be specific.
4. **Conceptual framework of the research.**
  - Draw a diagram of relationships among the concepts you plan to measure, using arrows to show directions of causality you think exist and with pluses (+) and minuses (-) related to the anticipated nature of the relationship (e.g., direct,

inverse; use “X” if complicated, and use “?” if unknown). This will be the basis for presentation of the analytical model.

5. **Concept operationalization matrix.**
  - For each concept (i.e., each box in your conceptual framework), include a list of the variables you will use to measure this concept and how they will be measured. You need an operationalization matrix for every concept in the framework.
6. **Experimental or research design.**
  - Description can be brief (i.e., a paragraph or two), but explicit. Will you use cross-sectional or longitudinal design? Panel, cohort, or repeat cross-section? Randomized control trial? Quasi-experimental?
7. **Sample design and sampling plan.**
  - This *must* include a calculation of needed sample size based on alpha level, power, and level of precision needed for the study. This is based on the specific parameters you are measuring and statistical tests you are using.
  - The sampling plan *must* indicate units of analysis, sampling units, sampling frame *and* the mechanics or logistics you will use to draw the sample.
8. **Documentation of formative (focus group or open-ended interview) and pretesting results.**
  - The results here are a narrative description of (a) lessons learned from the focus group(s) or open-ended interviews (e.g., pretest, early data collection); and (b) how you modified your research question, design, or data collection instrument as a result.
  - Be sure to include a description of the focus group discussion or interviews (e.g., number of participants, length, structure, etc.), what caused you to modify or change any of your approaches, questions, or expected relationships in your conceptual framework.
  - Note that the due date for this section will depend on when you can arrange your formative work. If it will be late, though, please let me and Yue know, and keep us informed of your progress.
9. **Survey or data collection instrument(s), with a justification of each item in relation to the conceptual framework.**
  - Put a number in each box of your conceptual framework. Next to each question or item in your instrument, note the number of the concept for which you need this item.
  - Format the data collection instrument as you expect it to be administered.

10. **Analytic model(s).**

- Present the analysis plan, identifying the variables, the key relationships among them, and what statistical methods you will use to demonstrate them. This should be linked to your conceptual framework.
- Be specific: indicate precisely what relationships will be investigated and presented.
- For descriptive studies, indicate what variables and what measures (e.g., percentages, average values, differences between groups) you will be looking at. Note that descriptive statistics may be sufficient for your purposes; you are not required to specify multivariate models.
- For most studies, descriptive statistics will be part of the analysis plan, whether or not further multivariate analysis is conducted.

11. **Description of study methods.**

- Logistics, staffing, schedule of operations (including timeline).

12. **Budget.**

- A breakdown by category and year (for multi-year projects) of the project costs using a standard budget format. This must include a Budget Narrative that explains and justifies each item in the budget.

**Entire survey report from each team is due on Friday May 10<sup>th</sup> at 11:55 pm.** I will provide feedback on draft sections handed in by **Friday April 26** (*but not later*- please include specific questions for feedback).

**Grading:** Term paper (study plan), 40%; timely submission of drafts of sections, 10% (one percentage point for each section submitted); quiz, 20%; exercises, 25%; and peer evaluation of group participation, 5%. Regular attendance and active participation are expected.

**Late submissions.**

Timely submission of each group assignment counts as 1% of your final grade (total 10% of the final grade). Your group will lose the benefit of the 1% for each late assignment.

For graded assignments – each day late reduces grade by one step (A to A-, A- to B+, etc.) For the final paper, grade reduction will apply to the group.

Please write to us no later than **5:00 pm (EST)** on **Wednesday** if you require an extension for that week's assignment. The above penalties will be applicable if due procedure is not followed.

**Working session.**

I have reserved the April 19<sup>th</sup> class as a working session. I will be available at that time for each group to report on progress and discuss problems. Of course, you may schedule a meeting with me or with the TA at any time if you need to. If you have questions or concerns, please get in touch before they turn into problems!

**Grading rubric.**

A passing grade in the course is B- or better. Letter grades in the course will be based on the following numeric conversions.

100 – 97 = A+  
96.9 – 94 = A  
93.9 – 90 = A-  
89.9 – 87 = B+  
86.9 – 84 = B  
83.9 – 80 = B-  
79.9 – 77 = C+  
76.9 – 74 = C  
....and so on

**Academic conduct.**

Each student is responsible for upholding the highest standards of academic integrity, as specified in the Friedman School's Policies and Procedures manual (<http://nutrition.tufts.edu/student/documents>) and Tufts University policies (<http://uss.tufts.edu/studentAffairs/documents/TuftsStudentHandbook.pdf>). It is the responsibility of each student to understand and comply with these standards, as violations will be sanctioned by penalties ranging from failure on an assignment or the course to dismissal from the school.

**Plagiarism.**

Plagiarism is taking words or ideas from someone else and presenting them as your own without appropriate citation. If a submitted assignment contains plagiarized language, that assignment will receive a failing grade of zero credit. If it is a group assignment, everyone in the group will receive that grade. If it is on the final paper, be aware this will cost 40% of your course grade which means a failing grade in the course.

**Use of AI:** I understand that various AI platforms may be useful in locating references or information. Be aware, though, that using AI to complete assignments poses the risk that the platform may produce false information. You are responsible for ensuring the accuracy and quality of the material you submit for the class. I would like to think that you benefit from doing your own work, and I do not plan to make extraordinary efforts to see if you have used AI to produce it. That said, submitting work as your own that isn't is the equivalent of plagiarism and will be treated as such.

**Human subjects training.** All students in the school are required to complete CITI, an online training course in the ethical treatment of human subjects in research: <https://www.citiprogram.org/>. If you took Nutrition 209 or 207, you have already completed this training. If not, you must complete it as a requirement of Nutrition 210. You need it for graduation, too.

**Accommodation of Disabilities.**

Students with documented disabilities are entitled to academic accommodation appropriate to their needs. If you require accommodations for this course, please contact Dr. Beatrice Rogers confidentially prior to the end of the second week of classes. If you prefer, you may communicate through Student Services.

**\*\*\* Note:** Unless otherwise noted, ALL assignments should be uploaded on Canvas as a Microsoft Word document, using the following naming scheme: assignment Last Name (or names), for example Grp HW1 Rogers Krobath Zhan or Indiv HW2 Rogers. Please do not submit assignments in pdf form, as it's hard to comment on those. Use .doc or docx. Data collection instruments, though, should be submitted as they will be administered, and conceptual frameworks may be easier to show in PowerPoint.

**Required texts:**

1. Babbie, Earl, The Practice of Social Research, you can use the 13<sup>th</sup>, 14<sup>th</sup>, or 15<sup>th</sup> edition. Boston, MA: Cengage Learning (2021) (available to buy or rent from [several online sellers](#) – shop around for a good price. The latest edition is [here](#). Assignments will be from the 15<sup>th</sup> (most recent) edition.

The following are resources available on-line or on Canvas that contain assigned readings.

2. Feed the Future Population-Based Survey Sampling Guide and Calculator.  
<https://www.fantaproject.org/monitoring-and-evaluation/sampling>
3. Feed the Future ZOI Survey Methods Toolkit – Baseline (2019).  
<https://agrilinks.org/post/feed-future-zoi-survey-methods>
4. Oseni, G., Palacios-Lopez, A., Mugera, H.K. and Durazo, J. (2021). Capturing What Matters: Essential Guidelines for Designing Household Surveys. Washington DC: World Bank.  
<https://www.worldbank.org/en/programs/lsmis/publication/CapturingWhatMattersEssentialGuidelinesforDesigningHouseholdSurveys>
5. FAO; World Bank. 2018. Food Data Collection in Household Consumption and Expenditure Surveys: Guidelines for Low- and Middle-Income Countries. Rome: FAO. © FAO and the World Bank. <https://openknowledge.worldbank.org/handle/10986/32503>  
License: CC BY-NC-SA 3.0 IGO
6. Grosh, Margaret and Paul Glewwe, [Designing Household Survey Questionnaires for Developing Countries: Lessons from Fifteen Years of LSMS Experience \(Volumes 1-3\)](#). Washington, D.C. World Bank, 2000.

**Recommended texts (note these may contain required readings):**

1. DeVellis, R. F., Thorpe, C.T. (2021). [Scale Development: Theory and Applications](#) (5<sup>th</sup> ed.). Thousand Oaks, Calif: SAGE. Link to the 4<sup>th</sup> ed. is [here](#).
2. Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). [Internet, Phone, Mail and Mixed-Mode Surveys: The Tailored Design Method](#) (4<sup>th</sup> ed.). New York, NY: John Wiley & Sons. (This has been a lifesaver for several PhD students – worth having on your shelf!)
3. Krueger, R. A. & Casey M. A. (2015). [Focus Groups: A Practical Guide for Applied Research](#) (5<sup>th</sup> ed.). Thousand Oaks, Calif: SAGE.  
(Based on previous students' experience, I would recommend investing in Babbie, DeVellis, and Dillman.)

**NOTE:** All texts will be on reserve at the Health Sciences Library. Most readings will be available on Canvas. Note that some required readings are in the optional textbooks. There is an *Addendum* at the end of the syllabus with details regarding how to find the necessary course texts/readings.

<b><i>Date</i></b>	<b><i>Session</i></b>	<b><i>Topic</i></b>
Jan 19	1	Outline of Class Objectives & Expectations Ethics in Survey Research
Jan 26	2	Formulating Research Questions; Conceptual Frameworks, Causal Pathways,
Feb 2	3	Concepts & Variables
Feb 9	4	Research & Study Design; Analytic Models
Feb 16	5	Sampling
Feb 23	6	IRB Procedures Introduction to Instrument Design
Mar1	7	Review of Sampling Collecting Community Level Data, Formulating Nested Unique Identifiers
Mar 8	8	Qualitative Data Collection: Focus Groups as a Data Collection Technique & as a Preliminary to Questionnaire Design
Mar 15	9	Measuring Knowledge, Attitudes, & Practices; Scale Construction
<b>Mar 22</b>	<b>No Class</b>	<b>SPRING BREAK</b>
Mar 29	10	Qualitative Data Collection & Rapid Appraisal Methods Measuring Time Use & Task Allocation
Apr 5	11	Field Operations & Budgeting
Apr 12	12	Measuring Socio-Economic Status: Income, Expenditure, Consumption, & Wealth
<b>Apr 19</b>	<b>13</b>	<b>WORKING SESSION</b>

<b>Apr 26</b>	14	Measuring Dietary Intake (Last Class)
<b>May 10</b>		<b>Completed Survey Plan (all sections) Due on Canvas by 11:55PM on Friday May 10<sup>th</sup></b>

**SESSION 1**

**January 19**

- ✓ **Outline of Class Objectives and Expectations**
- ✓ **Approaches to field research**
  - Appropriate uses of survey techniques
  - Alternatives to the use of surveys
  - Combining qualitative and quantitative methods
  - Combining primary and secondary data sources
- ✓ **Ethical considerations in field research**
  - Choosing research questions
  - Use of research results
  - Protection of human subjects
  - Institutional review board review
  - Which IRB to use for Tufts research
  - Principles of informed consent
  - Types of review (full, expedited, exempt)

**Required Reading:**

1. Babbie Chapter 3: The Ethics and Politics of Social Research. (See also Chapter 11 on Ethics of Qualitative Field Research)
2. [IRB procedures Tufts - Overview](#)

**Recommended reading**

1. Curran, Melissa (positionality)

**Assignment (Individual HW 1):** Post ideas for class research projects on Canvas Discussion Board and be prepared to form project teams in class 1/26/2024.

**Post topic ideas by Tuesday January 23, 11:55PM** (to give you time to peruse and decide on your interests); post your ranked preferences on the sign-up sheet by **noon on Thursday January 25**. We will finalize project assignments in class January 26.

*Class typically works in teams of three.*



**SESSION 2**

**January 26**

- ✓ **Formulating research questions**
  - Developing causal models and conceptual frameworks
  - Developing an analytic model
  - Theories, hypotheses, specific aims
  - Distinguishing good survey questions from good thesis questions
- ✓ **Developing hypotheses and specific aims**
- ✓ **We will set aside some time to form class project teams**

*In class exercise: Develop testable hypothesis from a broad research question.*

**Required Reading:**

1. Babbie Chapter 1 (Human Inquiry and Science)
2. Babbie Chapter 2 (Paradigms, Theory and Social Research)
3. Babbie Chapter 4 (Research Design)
4. Howe, Chanelle J, Zinzi D Bailey, Julia R Raifman, and John W Jackson. "Recommendations for Using Causal Diagrams to Study Racial Health Disparities." *American Journal of Epidemiology* 191, no. 12 (November 19, 2022): 1981–89. <https://doi.org/10.1093/aje/kwac140>.
5. Evans, Clare R., David R. Williams, Jukka-Pekka Onnela, and S. V. Subramanian. "A Multilevel Approach to Modeling Health Inequalities at the Intersection of Multiple Social Identities." *Social Science & Medicine* (1982) 203 (April 2018): 64–73. <https://doi.org/10.1016/j.socscimed.2017.11.011>.

**Recommended Reading:**

<https://www.nimhd.nih.gov/about/overview/research-framework/nimhd-framework.html>

**Due today:** See assignment listed in Class 1. We will form groups in class today.

**Assignment (Individual HW 2, graded):** Develop a testable hypothesis based on a broad research question (on Canvas under "Assignments") **and** create a conceptual framework for that hypothesis.

**Due: Thursday, February 1<sup>st</sup> , 11:55PM**

**SESSION 3**

**February 2**

- ✓ **Concepts and variables**
  - Turning research concepts into measurable variables
  - Measurement issues
  - Validity, reliability, accuracy
  - Variable computation and creation

Guest lecturer: **Danielle Krobath**: operationalizing the concept of race

**In-class exercise:** Create a concept to variable matrix for one concept.

**Required Reading:**

1. Babbie Chapter 5: Conceptualization, Operationalization, and Measurement
2. Elena Naumova Public Health Inequalities, Structural Missingness, and Digital Revolution: Time to Question Assumptions. *Journal of Public Health Policy* (2021) 42:531–535 <https://doi.org/10.1057/s41271-021-00312-y>
3. Krobath, Danielle M., Adolfo G. Cuevas, Jennifer D. Allen, Mei Chung, Christina D. Economos, and Jayanthi Mistry. "The Influence of Contested Racial Identity and Perceived Everyday Discrimination Exposure on Body Mass Index in US Adults." *Journal of Racial and Ethnic Health Disparities*, September 5, 2023. <https://doi.org/10.1007/s40615-023-01774-4>.

**Recommended Reading:**

1. Coon, Kathy, Women, Families, Food and Children, Chapters 4 and 5 (PhD Thesis Proposal, Oct 1992) – *excellent example of creating measurable constructs from concepts*. (Available on Canvas.)
2. *Another nice example of operationalizing structural racism to assess BMI:* Dougherty, Geoff B., Sherita H. Golden, Alden L. Gross, Elizabeth Colantuoni, and Lorraine T. Dean. "Measuring Structural Racism and Its Association With BMI." *American Journal of Preventive Medicine* 59, no. 4 (October 1, 2020): 530–37. <https://doi.org/10.1016/j.amepre.2020.05.019>.

**Due today:** Testable hypothesis & conceptual framework (*individual assignment, graded – Indiv HW2*)

**Assignment (Group HW 1):** Take home exercise. Working in your groups, design a concept-to-variable matrix for one key concept in your group project. **Due: Thursday, February 8<sup>th</sup>, 11:55PM** (note – the final project will have a matrix for **each** concept in your conceptual framework)

**SESSION 4**

**February 9**

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✓ **Research and Study Design**

- Types of design
  - Cross Sectional
  - Longitudinal: cohort, panel, repeat cross section
  - Case control
  - Experiments, quasi-experiments
- Strengths and weaknesses
- Fallback options
- How to describe a study design in a proposal

✓ **Linking study design to analytic models**

**In-class exercise:** Develop a study design for a research question (in groups).

**Required Reading:**

1. Babbie Chapter 8: Experiments
2. Babbie Chapter 12: Evaluation Research
3. Victora, CG., J-P Habicht, J Bryce, "Evidence Based Public Health: Moving Beyond Randomized Trials" American Journal of Public Health 94:3, March 2004, pp 400-405
4. West SG, Duan N, Pequegnat W, Gaist P, Des Jarlais DC, Holtgrave D, Szapocznik J, Fishbein M, Rapkin B, Clatts M, Mullen PD. Alternatives to the randomized controlled trial. AM J Public Health. 2008 Aug; 98(8):1359-66. doi: 10.2105/AJPH.2007.124446. Epub 2008 Jun 12. (*Skim Article and Review Table 1*)
5. Ilana R Cliffer et al., Cost-Effectiveness of 4 Specialized Nutritious Foods in the Prevention of Stunting and Wasting in Children Aged 6–23 Months in Burkina Faso: A Geographically Randomized Trial, *Current Developments in Nutrition*, Volume 4, Issue 2, February 2020, nzaa006, <https://doi.org/10.1093/cdn/nzaa006> (*Read the methods section, focus on 'study design'*)
6. <https://journalofbigdata.springeropen.com/articles/10.1186/s40537-21-00445-7>

**Due today:** Concept-to-variable matrix for one variable from group survey plan (*Grp HW1*)

**Assignment (Group HW 2):** Begin survey plan, incorporating sections 1-5 (1. Statement of problem; 2. Brief literature review; 3. Statement of the research question/hypothesis; 4. Conceptual framework; 5. **Complete** concept-to-variable matrix – include **all** your variables.) **Due: Thursday, February 15<sup>th</sup>, 11:55PM**

**SESSION 5**

**February 16**

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✓ **Sampling**

- Reasons for sampling
- Types of sampling
- Sampling units and units of analysis
- Nested sample designs
- Multistage samples and clustering
- Developing a sampling frame
- Area based sampling frames
- What to do if there is no sampling frame
- Logistics of sampling
- Determining sample size (e.g., significance, power, rare events)
- Resources for sample size calculation

**In-class exercise:** Design a sampling plan (for the study description you will be provided).

**Required Reading:**

1. Babbie Chapter 7: The Logic of Sampling
2. Magnani, Robert. *Sampling Guide (1999) and Addendum (2012)*. Washington, D.C.: FHI 360/ Food and Nutrition Technical Assistance III Project. **Pages 1 – 31**.
3. Oseni et al., Chapter 6 Geographic Information Systems in Household Surveys Ntozini, R., Marks, S. J., Mangwadu, G., Mbuya, M. N. N., Gerema, G., Mutasa, B., Team, for the S. H. I. N. E. (SHINE) T. (2015). Using Geographic Information Systems and Spatial Analysis Methods to Assess Household Water Access and Sanitation Coverage in the SHINE Trial. *Clinical Infectious Diseases*, 61(suppl\_7), S716–S725.  
<https://doi.org/10.1093/cid/civ847>
4. Measuring Survey Nonresponse by Race and Ethnicity Deborah H. Griffin, United States Bureau of the Census Bureau of the Census, 4700 Silver Hill Road, Washington, DC 20233-8700 (PDF available on Canvas)
5. The BMJ | The BMJ: leading general medical journal. Research. Education. Comment. “Chapter 4. Measurement Error and Bias | The BMJ,” October 28, 2020.  
<https://www.bmj.com/about-bmj/resources-readers/publications/epidemiology-uninitiated/4-measurement-error-and-bias>.

**Sample Size Calculators – examples online:**

[Java Applets for Power and Sample Size](#)  
[Australian Bureau of Statistics Sample Size Calculator](#)  
[Creative Research Systems Sample Size Calculator](#)  
[Select Statistical Services Population Proportion Sample Size Calculator](#)  
[Rao Soft Sample Size Calculator](#)  
<https://www.stata.com/features/power-and-sample-size/>  
<https://statulator.com/>

**Recommended Reading:**

1. Dillman et al. has a good discussion of sampling, especially pp. 87 – 90 on post survey adjustment and sampling error. (*Don't worry about the statistical formulas, focus on the concepts.*)
2. Diana Maria Stukel. 2018. *Feed the Future Population-Based Survey Sampling Guide*. Washington, DC: Food and Nutrition Technical Assistance Project, FHI 360. (*Note, this is quite technical but may serve as a resource if you wish to go further into sampling*)
3. Online Resource: PowerPoint presentation by Diana Stukel: Elements of Sampling and Survey Design (available on Canvas)
4. *A nice discussion of designing a representative school-based sampling strategy for a national survey:* Garavan, H., H. Bartsch, K. Conway, A. Decastro, R. Z. Goldstein, S. Heeringa, T. Jernigan, A. Potter, W. Thompson, and D. Zahs. “Recruiting the ABCD Sample: Design Considerations and Procedures.” *Developmental Cognitive Neuroscience*, The Adolescent Brain Cognitive Development (ABCD) Consortium: Rationale, Aims, and Assessment Strategy, 32 (August 1, 2018): 16–22.  
<https://doi.org/10.1016/j.dcn.2018.04.004>.

5. *This is a useful manual to reference when planning your sampling process:* ICF International. 2012. Demographic and Health Survey Sampling and Household Listing Manual. MEASURE DHS, Calverton, Maryland, U.S.A.: ICF International
6. Gard, Arianna M., Luke W. Hyde, Steven G. Heeringa, Brady T. West, and Colter Mitchell. "Why Weight? Analytic Approaches for Large-Scale Population Neuroscience Data." *Developmental Cognitive Neuroscience* 59 (February 1, 2023): 101196. <https://doi.org/10.1016/j.dcn.2023.101196>
7. WHO reference on Health equity Ch2 on how weighting impacts equity issues (will be available on Canvas)

**Due today:** First part of survey plan (Sections 1-5 – Grp HW2)

**Assignment (Individual HW 3, graded):** Take-home sampling exercise (posted on Canvas after class today). **Due: Thursday, February 22<sup>nd</sup>, 11:55PM.**

*Think of your questions for the IRB procedures lecture (2/23/24).*

## SESSION 6

February 23

- ✓ IRB Procedures
  - Guest Lecture: Paul Hart, SBER IRB
- ✓ Introduction to Instrument Design
  - Linking instruments to conceptual framework
  - Linking specific items to concepts
  - Organization and design of questionnaires
  - Respondent selection
  - Principles of interviewing
  - In-person, phone, and mailed instruments
  - Pretesting and revision
  - Data handling considerations in the design of instruments
  - Modes of data collection (paper vs. electronic vs. tablet; self-administered vs. interviewer-administered; phone, web, mail, in-person)

**In-class exercise:** Practice implementing an electronic survey (working in pairs).

### Required Reading:

1. Babbie Chapter 9: Survey Research
2. Dillman: Required: Chapter 4 (Fundamentals of Writing Questions), Recommended: 5 (How to Write Open and Closed-Ended Questions), 6 (Aural and Visual Design of Questionnaires); and 7 (Ordering Questions)

3. Rogers, B., Somé, J., Bakun, P., Adams, K., Bell, W., Wafa, S., & Coates, J. (2021). Validation of the INDDX24 mobile app vs. a pen-and-paper 24-hour dietary recall using the weighed food record as a benchmark in Burkina Faso. *British Journal of Nutrition*, 1-41. doi:10.1017/S0007114521004700
4. Oseni, Gbemisola; Palacios-Lopez, Amparo; Mugera, Harriet Kasidi; Durazo, Josefine. 2021. Capturing What Matters: Essential Guidelines for Designing Household Surveys. LSMS Guidebook; Second Edition. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/36763> License: CC BY 3.0 IGO. (Chapter 7, use of CAPI, pp 47 – 50)

#### Recommended Reading:

1. Babbie Chapter 14, Quantitative Data Analysis (*for insight into designing a questionnaire to collect the necessary information*)
2. Caswell BL, Talegawkar SA, Dyer B, Siamusantu W, Klemm RDW, Palmer AC. Assessing child nutrient intakes using a tablet-based 24-hour recall tool in rural Zambia. *Food Nutr Bull*. 2015;36(4):467-480. doi:10.1177/0379572115612631
3. Jacques, S., Lemieux, S., Lamarche, B., Laramée, C., Corneau, L., Lapointe, A., ... Robitaille, J. (2016). Development of a Web-Based 24-h Dietary Recall for a French-Canadian Population. *Nutrients*, 8(11), 724. doi:10.3390/nu8110724

*Note: Dillman et al. has detailed discussions of each type of survey: telephone, web, mailed, and mixed-mode (Chapters 8 – 11) that have useful information. Skim for your future reference.*

**Due today:** Take-home sampling exercise (*individual assignment Indiv HW3*)

**Assignment (Group HW 3):** Draft of sections 6 and 10 (study design and analysis plan) **Due: Thursday, March 1<sup>st</sup>, 11:55PM.**

## SESSION 7

March 1

### ✓ Review of sampling

- We will review the sampling exercises and address questions. We will also address questions regarding sampling in your term projects.

### ✓ Collecting community level data

### ✓ Collecting basic demographic data

### ✓ Linking multiple data collection instruments at multiple levels; use of nested ID codes

**In-class exercise:** developing a system of nested ID codes

#### Required Reading

1. Oseni, Gbemisola; Palacios-Lopez, Amparo; Mugera, Harriet Kasidi; Durazo, Josefine. 2021. Capturing What Matters: Essential Guidelines for Designing Household Surveys.

- LSMS Guidebook; Second Edition. World Bank, Washington, DC. © World Bank.  
<https://openknowledge.worldbank.org/handle/10986/36763> License: CC BY 3.0 IGO.  
(Chapter 5.1.1 Household Roster and Membership, and associated Q module)
2. Frankenberg, Elizabeth (2000). Community and Price Data. Grosh, Margaret E. & Glewwe, Paul (Eds.) (pp. 315-338). Washington: World Bank. (Chapter 13. And associated Q modules)
  3. Bradburn, N. M., Sudman, S., & Wansink, B. (2004). Asking questions: The definitive guide to questionnaire design: for market research, political polls, and social and health questionnaires (Rev. ed.). Jossey-Bass. (Chapter 9 – Asking Standard Demographic Questions)

*Note: As you prepare to think about your analysis plan, use Babbie Chapters 13 – 16 as background.*

**Recommended Reading:**

Great example for designing detailed demographic surveys with sources linked: “The Basics Survey – All of Us Research Hub.” <https://www.researchallofus.org/data-tools/survey-explorer/the-basics-survey/>.

**Due today:** Draft of sections 6 and 10 (study design and analysis plan for your group project Grp HW3)

**Assignment (Group HW 4):** Draft sampling plan (Section 7) **Due: Thursday, March 7<sup>th</sup>, 11:55PM**

**SESSION 8**

**March 8**

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- ✓ **Qualitative Data Collection:** Focus groups as a data collection technique and as a preliminary to questionnaire design  
Guest Lecturer: **Sara Folta**

*In class exercise: Focus group discussion (all together)*

**Required Reading:**

1. Krueger and Casey, Focus Groups, Chapters 1 – 7.

**Recommended Readings:**

1. Creswell (2007). Chapter 4. Five qualitative approaches to inquiry. In, Qualitative Inquiry and Research Design. Thousand Oaks: Sage Publications. Pages 53 – 81.
2. Winch (2011). Technical notes on programmatic qualitative research (PQR) and grounded theory in public health. Johns Hopkins University School Public Health. Social and Behavioral Interventions Program. Pages 1 – 7.

**Due today:** Draft of sampling plan (Section 7 Grp HW4).

**Assignment (Group HW 5):** Draft of questionnaire (Section 9) Due: **Thursday, March 14<sup>th</sup>, 11:55PM** (Focus group/Formative report due **March 30<sup>th</sup>, 11:55PM**; extensions ok if scheduling requires it; but let us know!).

AND

**Begin planning your Focus Groups Discussion or formative interview guide** (Section 8) (Formative report- **Due March 28, 11:55PM**. You should have the Focus Group Discussion scheduled **before** Spring break). (**NOTE:** keep us apprised of your progress; the due date for this report depends on when you are able to schedule your interviews.)

## SESSION 9

March 15

- ✓ **Measuring Knowledge, Attitudes, and Practices**
  - ✓ **Scale Construction**
- Guest Lecturer: **Jennie Coates**

**In class exercise:** Develop the elements of a scale related to the impact of food price inflation on the quality of your diet.

### Required Reading:

1. Babbie Chapter 6: Indexes, Scales, and Typologies
2. De Vellis, Scale Development: Theory and Applications (Sage, 2021), Chapters 2 – 5 required; 6 recommended.
3. Jennifer Coates, Edward A. Frongillo, Beatrice Lorge Rogers, Patrick Webb, Parke E. Wilde, Robert Houser, Commonalities in the Experience of Household Food Insecurity across Cultures: What Are Measures Missing?, *The Journal of Nutrition*, Volume 136, Issue 5, May 2006, Pages 1438S–1448S, <https://doi.org/10.1093/jn/136.5.1438S>
4. Carlo Cafiero, Sara Viviani, Mark Nord. Food Security Measurement in a Global Context: The Food Insecurity Experience Scale. *Measurement* 116, Feb 2018, pp 146052. <https://doi.org/10.1016/j.measurement.2017.10.065>

### Recommended Reading:

1. Coates, Jennifer, Anne Swindale and Paula Bilinsky. 2007. *Household Food Insecurity Access Scale (HFIAS) for Measurement of Household Food Access: Indicator Guide (v. 3)*. Washington, D.C.: FHI 360/FANTA.
2. Bickel, Gary, Mark Nord, Cristofer Price, William Hamilton, and John Cook: Guide to Measuring Household Food Security, Revised 2000. U.S. Department of Agriculture, Food and Nutrition Service, Alexandria VA. March 2000. Or in short form as USDA, Guide 2000.

**Due today:** Draft questionnaire (Section 9 – Grp HW5).



**Assignment:** Review and critique another group's questionnaires (*review individually, assignments will be made in class*), **Due March 28<sup>th</sup> 11:55PM**).

**AND**

Prepare for and conduct your focus groups (Section 8) (*Focus group/Formative report – Grp HW 6- Due March 28<sup>th</sup>, 11:55PM*). Note: the deadline for your focus group report is flexible based on your ability to schedule the interviews or focus group, but you should **let us know** if you need an extension.

**SPRING BREAK**

**March 22**

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**No class – spring break** (but you could be working on your focus groups)

**SESSION 10**

**March 29**

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✓ **Qualitative Data Collection and Rapid Appraisal Methods**

**Required Reading:**

1. Chung, Kimberly, "Using Qualitative Methods to Improve the Collection and Analysis of Data from LSMS Household Surveys" (Chapter 25 in Grosh and Glewwe) (Note: the section available on Canvas has several chapters; scroll down to Chapter 25.)
2. In-home observation guide – review; we will do a run-through in class.  
<https://ee.kobotoolbox.org/preview/YB6E>
3. Busetto, Loraine, Wolfgang Wick, and Christoph Gumbinger. "How to Use and Assess Qualitative Research Methods." *Neurological Research and Practice* 2, no. 1 (May 27, 2020): 14.  
<https://doi.org/10.1186/s42466-020-00059-z>.

**Recommended Reading:**

1. Babbie Chapter 10: Qualitative Field Research
2. Bentley ME, Johnson SL, Wasser H, et al. Formative research methods for designing culturally appropriate, integrated child nutrition and development interventions: an overview. *Ann N Y Acad Sci.* 2014;1308:54–67. doi:10.1111/nyas.12290
3. Babbie Chapter 11: Unobtrusive Measures

✓ **Measuring Time Use and Task Allocation**

**Required Reading:**

1. Jonathan Gershuny, Time-Use Surveys and the Measurement of National Well-Being. University of Oxford, Centre for Time-use Research, 2011 (Read it through Section 1.)
2. Seymour, Greg; Malapit, Hazel Jean; Quisumbing, Agnes R.. 2017. Measuring time use in development settings (English). Policy Research working paper; no. WPS 8147. Washington, D.C.: World Bank Group.

**In-class exercise:** developing time use variables.

**Due today:** Focus Group Report (Section 8; if scheduling permits – let us know if it does not – Grp HW6)

**Assignment (Group HW 7):** Based on your formative work and peer feedback, modify and pretest your questionnaire – Section 9. Submit updated questionnaire (based on topics covered so far). **Due:** Thursday, April 4<sup>th</sup>, 11:55 pm

## SESSION 11

April 5

### ✓ Field Operations and Budgeting

- Interaction of design, sampling plan, time, and budget considerations
- Developing a budget
- Budget formats
- Budget narrative

### Required Reading:

1. Kirsten Zalisk, Jasbir Kaur and Kiersten B. Johnson. 2018. *Feed the Future Zone of Influence Surveys: Survey Organizational Manual*. Washington, DC: Bureau for Food Security, USAID through Chapter 4.9 (p 29)  
<https://docs.google.com/document/d/19j40Rx9mjJz2HA3prazj-p0YnoXru8Jn/edit#>. This reading gives you a sense of the steps involved in implementing a complex survey.
2. Dillman et al. has chapters on the implementation of different kinds of surveys: Chapters 8 (phone), 9 (web), 10 (mail), and 11 (mixed mode). *Read for the implementation approaches*.
3. Cheema, A. R., Mehmood, A., & Khan, F. A. (2018). Challenges of research in rural poverty: lessons from large field surveys. *Development in Practice*, 28(5), 714–719.  
<https://doi.org/10.1080/09614524.2018.1467881> (short but recently published paper that highlights real-world examples of challenges in field work)

### Recommended Reading:

*This gives you an idea of what is included in planning for field operations in a face-to-face survey. Read this to see what must go into a logistic plan, but you don't need every detail:*

1. UNICEF (2018). MICS6 TOOLS Overview. <https://mics.unicef.org/tools> (Look at the survey plan template and the budget template (Appendix A) to see what elements are included in the plan and how the budget is structured.)

**Due today:** Revised questionnaire (Section 9 – Grp HW7)

**Assignment (Group HW 9):** Draft sections 11-12 (Methods [logistic plan] and Budget) **Due: Thursday, April 11<sup>th</sup>, 11:55PM**

**SESSION 12**

**April 12**

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✓ **Measuring Socio-Economic Status: Income, Expenditure, Consumption, Wealth**

**In class activity:** develop approaches to measuring economic status under varying scenarios.

**Required Reading:**

1. Tom Carver and Arthur Grimes, Income or Consumption: Which Better Predicts Subjective Wellbeing? Motu Working Paper 16-12 (Motu Economic and Public Policy Research) August 2016
2. Zezza A, Carletto C, Fiedler JL, Gennari P, Jolliffe D. Food counts. Measuring food consumption and expenditures in household consumption and expenditure surveys (HCES). Introduction to the special issue. Food Policy. 2017;72:1-6. doi:10.1016/j.foodpol.2017.08.007
3. Oseni et al, Chapter 5.1.5, pp 28-31, food consumption module
4. Examples of questionnaires, provided on Canvas

**Recommended Reading:**

1. Grosh, Margaret; Glewwe, Paul. 2000. Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 Years of the Living Standards Measurement Study, Volume 3. Washington, DC: World Bank. © World Bank.  
<https://openknowledge.worldbank.org/handle/10986/15195>. License: CC BY 3.0 IGO (Chapter 5 – Consumption Module)
2. Dotter, Caroline; Klasen, Stephan (2017): The multidimensional poverty index: Achievements, conceptual and empirical issues, Courant Research Centre: Poverty, Equity and Growth - Discussion Papers, No. 233, Courant Research Centre Poverty, Equity and Growth, Göttingen.

**Due today:** Updated questionnaire (Section 9, based on focus group results and topics covered so far – Grp HW7)

**Assignment (Group HW 8):** Finalized questionnaire (Section 9) **Due: Thursday, April 18<sup>th</sup>, 11:55PM** (if you want feedback before your final submission).

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**SESSION 13**

**WORKING SESSION**

**April 19**

**Assignment (Individual quiz):** Quiz available at noon today on Canvas. **Due: Thursday, April 25<sup>th</sup>, 11:55PM**

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SESSION 14

April 28

✓ **Measuring Dietary Intake**

- Quantitative vs. non-quantitative approaches
- Accuracy vs. representativeness

***In-class exercise:*** portion size estimation in 24-hr dietary recall.

**Required Reading:**

1. FAO; World Bank. 2018. Food Data Collection in Household Consumption and Expenditure Surveys: Guidelines for Low- and Middle-Income Countries. Rome: FAO. © FAO and the World Bank. <https://openknowledge.worldbank.org/handle/10986/32503>. License: CC BY-NC-SA 3.0 IGO (Pages 1 – 44)
2. Park, Y., Dodd, K. W., Kipnis, V., Thompson, F. E., Potischman, N., Schoeller, D. A., Subar, A. F. (2018). Comparison of self-reported dietary intakes from the Automated Self-Administered 24-h recall, 4-d food records, and food-frequency questionnaires against recovery biomarkers. *Am J Clin Nutr*, 107(1), 80-93. doi:10.1093/ajcn/nqx002
3. Coates, J. C., Colaiezzi, B. A., Bell, W., Charrondière, U. R., & Leclercq, C. (2017). Overcoming Dietary Assessment Challenges in Low-Income Countries: Technological Solutions Proposed by the International Dietary Data Expansion (INDDEX) Project. *Nutrients*, 9(3), 289. doi:10.3390/nu9030289
4. Alan R. Kristal, Ulrike Peters, and John D. Potter, Is It Time to Abandon the Food Frequency Questionnaire? *Cancer Epidemiol Biomarkers Prev* 2005;14(12). December 2005
5. Willett WC, Hu FB. Not the time to abandon the food frequency questionnaire: point. *Cancer Epidemiol Biomarkers Prev*. 2006 Oct;15(10):1757-8.
6. Shonkoff, Eleanor, Kelly Copeland Cara, Xuechen (Anna) Pei, Mei Chung, Shreyas Kamath, Karen Panetta, and Erin Hennessy. "AI-Based Digital Image Dietary Assessment Methods Compared to Humans and Ground Truth: A Systematic Review." *Annals of Medicine* 55, no. 2 (December 12, 2023): 2273497. <https://doi.org/10.1080/07853890.2023.2273497>.

**Recommended reading:**

1. **Review website:** Data for Diets: <https://inddex.nutrition.tufts.edu/data4diets/indicators>
2. Ruel MT. Is dietary diversity an indicator of food security or dietary quality? A review of measurement issues and research needs. *Food Nutr Bull*. 2003 Jun;24(2):231-2. doi: 10.1177/156482650302400210. PMID: 12891828

**Due today:** Individual quiz (Indiv HW4)

**Term paper (complete study plan – Grp HW10) due May 10<sup>th</sup> (11:55 pm) on Canvas. No extensions for students expecting to graduate this year.**

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**ADDENDUM: Hirsh Library reading list information**

Babbie, E. R. (2021) *The practice of social research*. Fifteenth edition. Boston, MA: Cengage.  
Location (print): Hirsh Reserve Collection (4th floor) H62.B2 2021

DeVellis, R. F. & Thorpe, C. T. (2022) *Scale development: theory and applications*. Fifth edition. Thousand Oaks, California: SAGE Publications, Inc. Location (print): Hirsh Reserve Collection (4th floor) H61.27 D48 2022

Dillman, D. A. et al. (2014) *Internet, phone, mail, and mixed-mode surveys: the tailored design method*. Fourth edition. Hoboken, New Jersey: Wiley.

Online (requires Tufts UTLN/password):

[https://login.ezproxy.library.tufts.edu/login?auth=test&url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=827492&site=ehost-live&ebv=EB&ppid=pp\\_C1](https://login.ezproxy.library.tufts.edu/login?auth=test&url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=827492&site=ehost-live&ebv=EB&ppid=pp_C1)

Location (print): Hirsh Reserve Collection (4th floor) HM 538 D55 2014

Krueger, R. A. et al. (2015) *Focus groups: a practical guide for applied research*. 5th edition. Thousand Oaks, California: SAGE. Location (print): Hirsh Reserve Collection (4th floor) H 61.28 K78f 2015

Bradburn, N. M. et al. (2004) *Asking questions: the definitive guide to questionnaire design-- for market research, political polls, and social and health questionnaires*. Revised edition. San Francisco, CA: Jossey-Bass. Online (requires Tufts UTLN/password):

[https://login.ezproxy.library.tufts.edu/login?auth=test&url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=110112&site=ehost-live&ebv=EB&ppid=pp\\_C](https://login.ezproxy.library.tufts.edu/login?auth=test&url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=110112&site=ehost-live&ebv=EB&ppid=pp_C)

Location (print): Hirsh Reserve Collection (4th floor) H 62 B63 2004

Creswell, J. W. & Poth, C. N. (2018) *Qualitative inquiry & research design: choosing among five approaches*. Fourth edition. Thousand Oaks, California: SAGE. Location (print): Hirsh Reserve Collection (4th floor) H 61 C73 2018