

B. Statistical Methods

1. Respondent Universe and Sampling Methods

The respondent universe is members on Knowledge Networks' KnowledgePanel and Knowledge Panel Latino.

KnowledgePanel® is a probability-based online non-volunteer access panel. Panel members are recruited using a statistically valid sampling method with a published sample frame of residential addresses that covers approximately 97% of U.S. households. Sampled non-Internet households, when recruited, are provided a netbook computer and free Internet service so they may also participate as online panel members. KnowledgePanel consists of about 50,000 adult members (ages 18 and older) and includes persons living in cell phone only households. The multi-dimensional Hispanic population is also represented in KnowledgePanel with members recruited in both English and Spanish and thereby representing different levels of language proficiency and acculturation levels. Due to voluntary withdrawal, involuntary retirement of high-tenured members, and the addition of new panelists from the on-going recruitment, actual panel size fluctuates across the year.

Until recently, KnowledgePanel's probability-based recruitment had been based exclusively on a national RDD frame. In 2009, KN initiated the use of an address based sample (ABS) frame to first supplement the RDD frame and subsequently replace it. ABS involves probability-based sampling of addresses from the U.S. Postal Service's Delivery Sequence File. Randomly sampled addresses are invited to join KnowledgePanel through a series of mailings (English and Spanish materials) and by telephone follow-up to non-responders when a telephone number can be matched to the sampled address. Invited households can join the panel by one of several means: completing and mailing back an acceptance form in a postage-paid envelope; calling a toll-free hotline staffed by bilingual recruitment agents; or going to a dedicated KN recruitment Web site and completing the recruitment information online. The address sampling, conducted throughout the year, is done without replacement. Addresses with matched telephone numbers from the former RDD recruitment samples (for the last five years of calling) are also removed to eliminate duplication.

In addition, in 2008, KN constructed KnowledgePanel LatinoSM to provide researchers a capability to conduct online surveys with the U.S. Hispanic community. The sample of Latinos recruited through ABS is supplemented with an exclusive Spanish-language telephone recruitment using a hybrid design. This sample design blends a national RDD sample targeting high density Hispanic areas and a listed Hispanic-surname sample used in low-density areas. It is a geographically balanced sample that, when aggregated, encompasses approximately 93% of the nation's 47.8 million Latinos (Source:

<http://www.census.gov/population/www/socdemo/hispanic/files/Projections.csv>). In this Spanish-language supplemental sample, for those households where an address can be matched to a telephone number, a bilingual advance letter is mailed to facilitate cooperation.

Once panel members are recruited and provide basic demographic information such as gender, age, race/ethnicity, they become “active” for selection for specific surveys. Survey samples are drawn from among active members using a probability proportional to size (PPS) weighted sampling approach.

More details about KnowledgePanel’s design and general sampling approaches can be found at [http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel\(R\)-Design-Summary-Description.pdf](http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel(R)-Design-Summary-Description.pdf).

For this study, KN will aim to obtain 2,400 completes by adult members of its KnowledgePanel and KnowledgePanel Latino, evenly distributed among three subsamples: 800 English-dominant Hispanics, 800 Spanish-dominant Hispanics, and 800 English-speaking non-Hispanics. KN will draw each of the three subsamples using probability-based sampling and ensure the ending composition of each subsample matches that of the corresponding population group’s Census benchmarks. More specifically, the overall sample is drawn using a weighted proportional sampling approach so that all major population categories are correctly proportionally represented in the sample and all members of the panel have a known probability for inclusion. For each of the subsamples, KN will use the PROC SURVEYSELECT procedure to pull weighted random samples.

English- or Spanish-dominance for KnowledgePanel Latino participants is established using their answers to the following questions after they agreed to join the panel (response options are: very well, pretty well, just a little, not at all, and don’t know):

1. Would you say you can carry on a conversation in Spanish, both understanding and speaking?
2. Would you say you can read a newspaper or book in Spanish?
3. Would you say you can carry on a conversation in English, both understanding and speaking?
4. Would you say you can read a newspaper or book in English?

Spanish (English) dominance means a participant’s self-reported conversational and reading proficiencies are stronger in Spanish (English) than in English (Spanish).

2. Procedures for the Collection of Information

Members on KnowledgePanel and KnowledgePanel Latino panels will be invited by email to complete the study online (see Appendix B for the invitation). Participants can choose to answer either an English questionnaire or a Spanish questionnaire; the choice will be recorded. The study is expected to take an average of 15 minutes to complete (see Appendix A for the questionnaire). Reminder emails will be sent to those who have not completed their questionnaires every three days during the field period (see Appendix C for the reminder).

The study includes the following topics: (1) knowledge, attitude, and behavior toward nutrition and health; (2) health literacy, and use and understanding of food labels and label information; (3) degree of acculturation; (4) health status and demographic characteristics. Most of the substantive questions are borrowed from the Health and Diet Survey that the agency commissioned in previous years (OMB No. 0910-0545). Other questions are borrowed from other FDA studies and national surveys such as the National Center for Health Statistics' 2007-2008 National Health and Nutrition Examination Survey, the National Heart, Lung and Blood Institute's Hispanic Community Health Study/Study of Latinos, and FDA's Experimental Studies of Nutrition Symbols on Food Packages (OMB No. 0910-0655).

Spanish translation of most questions is already available from existing surveys and studies and will be used in this study. The translation of remaining questions will be developed.

3. Methods to Maximize Response Rates and Deal with Non-response

We will implement several procedures to maximize participation. We will conduct cognitive interviews and pretests to help improve understandability of the questionnaire, particularly to reduce participant burden, and to enhance interview administration. Since the majority of the questions in the study are borrowed from data collections previously commissioned by the agency or federal agencies, cognitive interviews will focus mostly on ensuring Spanish-dominant participants' ability to answer the questions. We will keep the study questionnaire at a reasonable length (15 minutes) to minimize breakoffs.

In addition, the contractor will send reminders and regularly monitor sampling output and returns to solve any problems daily throughout the course of the collection of information.

4. Test of Procedures or Methods to be Undertaken

The agency will conduct two rounds of pretest with 180 adults from the KnowledgePanel and KnowledgePanel Latino after OMB approval of the collection of information. The pretests will serve to address any unforeseen problems in administration of the interview.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

Knowledge Networks, as a sub-contractor to Research Triangle Institute, will collect the data. Dr. Jordon Peugh at KN was consulted on statistical aspects of the data collection. Chung-Tung Jordan Lin, PhD, CFSAN, will lead the analysis of the data.

Appendix A. Questionnaire

Appendix B. Invitation

Appendix C. Reminder

References

1. Centers for Disease Control and Prevention. Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1976-80 Through 2005-2006. December 2008. Available at http://www.cdc.gov/nchs/data/hestat/overweight/overweight_adult.pdf.
2. Centers for Disease Control and Prevention. Differences in Prevalence of Obesity Among Black, White, and Hispanic Adults --- United States, 2006-2008. Morbidity and Mortality Weekly Report 58(27): 740-744. July 17, 2009. Available at Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5827a2.htm>.
3. Passel, J.S. and C. D’Vera. U.S. Population Projections: 2005-2050. Pew Research Center. Washington, D.C. February 11, 2008. Available at <http://pewhispanic.org/files/reports/85.pdf>.
4. Centers for Disease Control and Prevention. Health Disparities Experienced by Hispanics – United States. Morbidity and Mortality Weekly Report 53(40): 935-7. October 15, 2004. Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5340a1.htm>.
5. National Heart, Lung and Blood Institute. Epidemiologic Research in Hispanic Populations: Opportunities, Barriers and Solutions. December 3, 2003. Available at <http://www.nhlbi.nih.gov/meetings/workshops/hispanic.htm>.
6. IRI. Times & Trends: Hispanic Consumers – Capturing CPG Market Potential. April 2008. Available at http://www.symphonyiri.com/portals/0/articlePdfs/TT_April_2008_Hispanic_Consumers.pdf.
7. Yang, S., M.G. Leff, D. McTague, K. A. Horvath, J. Jackson-Thompson, T. Murayi, G.K. Boeselager, T.A. Melnik, M.C. Gildemaster, D.L. Ridings, S.F. Altekruse, and F.J. Angulo. Multistate Surveillance for Food-Handling, Preparation, and Consumption Behaviors Associated with Foodborne Diseases: 1995 and 1996 BRFSS Food–Safety Questions. Morbidity and Mortality Weekly Report 47(SS-4): 33-54. September 11, 1998. Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/00054714.htm>.
8. Lin, C.-T. J. and S.T. Yen. Knowledge of Dietary Fats among US Consumers. Journal of the American Dietetic Association 110(4): 613-8. April 2010.
9. Marin, G., F. Sabogal, B.V. Marin, R. Otero-Sabogal, and E.J. Perez-Stable. Development of a Short Acculturation Scale for Hispanics. Hispanic Journal of Behavioral Sciences 9(2): 183-205. 1987.

10. Satia-About, J., R.E. Patterson, M.L. Neuhouser, and J. Elder. Dietary Acculturation: Applications to Nutrition Research and Dietetics. *Journal of the American Dietetic Association* 102(8): 1105-1118. August 2002.
11. Lin, H., O.I. Bermudez, and K.L. Tucker. Dietary Patterns of Hispanic Elders Are Associated with Acculturation and Obesity. *Journal of Nutrition* 133: 3651-3657. 2003.
12. Otero-Sabogal, R., F. Sabogal, E.J. Pérez-Stable, and R.A. Hiatt. Dietary Practices, Alcohol Consumption, and Smoking Behavior: Ethnic, Sex, and Acculturation Differences. *Journal of National Cancer Institute Monograph* 18: 73-82. 1995.
13. Lara, M., C. Gamboa, M.I. Kahramanian, L.S. Morales, and D.E. Hayes Bautista. Acculturation and Latino Health in the United States: A Review of the Literature and its Sociopolitical Context. *Annual Review of Public Health* 26: 367-397. 2005.
14. Winkleby, M.A., S.P. Fortmann, and B. Rockhill. Health-Related Risk Factors in a Sample of Hispanics and Whites Matched on Sociodemographic Characteristics. The Stanford Five-City Project. *American Journal of Epidemiology* 137(12): 1365-75. June 15, 1993.
15. Byrd, T.L., H. Balcazar, and R.A. Hummer. Acculturation and Breast-Feeding Intention and Practice in Hispanic Women on the US-Mexico Border. *Ethnicity & Disease* 11(1): 72-79. 2001.
16. Cobas, J.A., H. Balcazar, M. B. Benin, V.M. Keith, and Y. Chong. Acculturation and Low-Birthweight Infants Among Latino Women: a Reanalysis of HHANES Data with Structural Equation Models. *American Journal of Public Health* 86(3): 394-96. 1996.
17. Dixon, L.B., J. Sundquist, and M. Winkleby. Differences in Energy, Nutrient, and Food Intakes in a US Sample of Mexican-American Women and Men: Findings from the Third National Health and Nutrition Examination Survey, 1988-1994. *American Journal of Epidemiology* 152(6): 548-57. 2000.
18. Khan, L.K., J. Sobal, and R. Martorell. Acculturation, Socioeconomic Status, and Obesity in Mexican Americans, Cuban Americans, and Puerto Ricans. *International Journal of Obesity* 21(2): 91-96. 1997.
19. Markides, K.S., D.J. Lee, and L.A. Ray. Acculturation and Hypertension in Mexican Americans. *Ethnicity & Disease*. 3:70-74. 1993.
20. Stern, M.P., C. Gonzalez, B.D. Mitchell, E. Villalpando, S.M. Haffner, and H.P. Hazud. Genetic and Environmental Determinants of Type II Diabetes in Mexico City and San Antonio. *Diabetes* 41(4): 484-92. 1992.

21. Sundquist, J., and M.A. Winkleby. Cardiovascular Risk Factors in Mexican American Adults: a Transcultural Analysis of NHANES III, 1988–1994. *American Journal of Public Health* 89(5): 723–30. 1999.
22. Thomson, M.D., and L. Hoffman-Goetz. Defining and Measuring Acculturation: A Systematic Review of Public Health Studies with Hispanic Population in the United States. *Social Science & Medicine* 69: 983-991. 2009.