



INSTITUTE FOR SOCIAL RESEARCH • SURVEY RESEARCH CENTER
SURVEY RESEARCH OPERATIONS
UNIVERSITY OF MICHIGAN

Mixed Mode Design Considerations

Andrew L. Hupp
University of Michigan
International Field Directors and Technologies Conference
Ft. Lauderdale, FL
May 20, 2015

What does mixed mode really mean?

- Data collection mode
- Contact mode
- Cross between data collection mode and contact mode
- Device mixture
 - Organization provided v. BYOD
- Concurrent v. sequential
 - Order
 - When to change
- Panel v. cross-section
- Software limitations



Column 1	Column 2	Column 3	Column 4	Column 5
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				



Face-to-face/CAPI



Respondent

Device



Other data



Telephone/CATI



Survey Organization



Messaging



Avatar/Animated Agents



Mail



Video Mediated



Social Media



Internet



Total Survey Error Framework (Groves et al. 2004)²

- Sampling and Coverage
 - Difference between population represented and target population
 - Web surveys characterizing to full population prone to coverage bias unless those w/o Internet access given access
 - Dual frames
- Non-response
 - Value of statistics based on respondent data differ from entire sample data
 - Non-response bias (e.g. age, younger Rs complete web, older Rs complete FtF/phone), mode preference
- Measurement
 - Mode effect – how mode impacts error (sensitive questions) (Tourangeau & Smith, 1996, Kreuter et al., 2008, Schober et al., 2012)^{3,4,5}
 - Interviewer-administered minimizes item missing data (probing)



- Unified mode (Dillman et al., 2014)⁶ v. affordances of mode
- New or on-going survey
- Mode of administration
 - Agent (self, interviewer, automated)
 - Device considerations
- Definitions/QxQs/Interviewer Instructions
- Answer categories (Schober et al., 2014)⁷
- Two part questions
- Length
 - Modular (West et al., 2015)⁸
 - Field Period (Conrad et al., 2014)⁹
- Grids





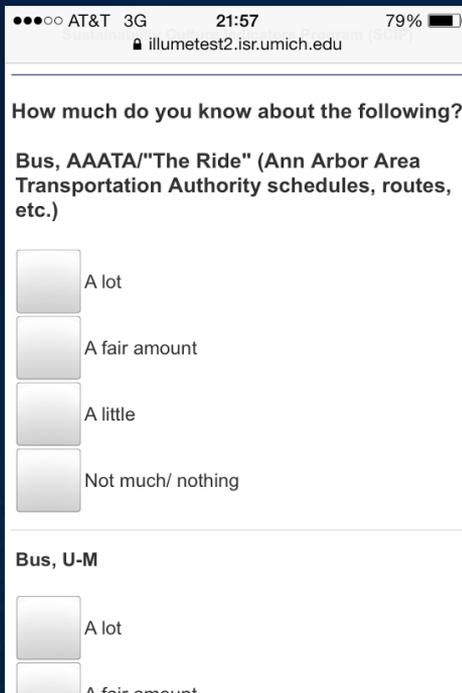
Sustainability Culture Indicators Program (SCIP)

How much do you know about the following?

	A lot	A fair amount	A little	Not much/ nothing
Bus, AAATA/"The Ride" (Ann Arbor Area Transportation Authority schedules, routes, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bus, U-M	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biking in Ann Arbor (bike lanes, rules of the road, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Renting a car by the hour (e.g. Zipcar)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
U-M GreenRide/iShareaRide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Next >>

<< Back





- Recruiting
 - Craigslist, Google AdWords, Facebook and Amazon Mechanical Turk, (Antoun et al., in press)¹⁰
- Prenotification
 - Varying mode + effect (Couper, 2008)¹¹
 - SMS text ↑ RR over e-mail or no prenotification (Bosnjak et al., 2008)¹²
 - Letter ↑ RR in survey of physicians (Dykema et al., 2011)¹³
 - Letter ↑ participation, only among those providing an e-mail address (Bandilla et al., 2012)¹⁴
 - Military population, SMS text may be most effective with younger/mobile; letter only condition had no significant impact on participation (Holland et al., 2015)¹⁵
- Invitation/Reminder
 - SMS invitation is more efficient compared to e-mail in encouraging to survey completion via a mobile device (Mavletova & Couper, 2014)¹⁶
- Respondent initiated contact (inbound)
 - SMS Text, E-mail, Website, Mail, Phone, Social Media



Suggested Post



Communication Neuroscience Lab

Sponsored · 🌐

👍 Like Page

See if you qualify for a \$45 neuroimaging study by taking 5 min survey screener!



UMichigan Research Study

See if you qualify for a \$45 neuroimaging study by taking 5 min survey screener!

UMICHLSA.QUALTRICS.COM

Learn More

Like · Comment · Share · 👍 1 ➦ 2

- Restarting/reasking sections due reference periods
- Same instruments different data collection software
- Similar but different instruments
- Paradata



- ¹Graesser, A.C., Jeon, M., & McDaniel, B. (2008). Survey Interviews with New Communication Technologies: Synthesis for Future Opportunities. In F.G. Conrad & M.F. Schober (Eds.), *Envisioning the Survey Interview of the Future* (pp. 267-284). Hoboken, NJ: Wiley.
- ²Groves, R.M., Fowler Jr., F.J., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2004) *Survey Methodology*. Hoboken, NJ: John Wiley & Sons
- ³Tourangeau, R., & Smith, T. W. (1996). Asking sensitive questions the impact of data collection mode, question format, and question context. *Public Opinion Quarterly*, 60(2), 275-304.
- ⁴Kreuter, F., Presser, S., & Tourangeau, R. (2008). Social desirability bias in CATI, IVR, and Web surveys the effects of mode and question sensitivity. *Public Opinion Quarterly*, 72(5), 847-865.
- ⁵Schober, M.F., Conrad, F.G., Antoun, C., Ehlen, P., Fail, S., Hupp, A.L., Johnston, M., Vickers, L., Yan, H.Y., and Zhang, C. (in press). "Precision and Disclosure in Text and Voice Interviews on Smartphones." PLOS ONE
- ⁶Dillman, D.A., Smyth, J.D., & Christian, L.M. (2014) *Internet, Phone, Mail, and Mixed Mode Surveys*. Hoboken, NJ: John Wiley & Sons



- ⁷Schober, M.F., Conrad, F.G., Yan, H., & Sauvage-Mar, M.G. (2014). Effort and sensitivity effects in mobile text messaging interviews. Paper presented at the 69th annual conference of the American Association for Public Opinion Research, Anaheim, CA.
- ⁸West, B.T., Ghimire, D., and Axinn, W.G. (in press). Evaluating a modular design approach to collecting survey data using text messages. *Survey Research Methods*.
- ⁹Conrad, F.G., Schober, M.F., Antoun, C., & Hupp, A.L. (2014). Interviewing by texting: Costs, efficiency and data quality. Paper presented at the 69th annual conference of the American Association for Public Opinion Research, Anaheim, CA.
- ¹⁰Antoun, C., Zhang, C., Conrad, F.G., & Schober, M.F. (in press). Comparisons of Online Recruitment Strategies for Convenience Samples: Craigslist, Google AdWords, Facebook and Amazon's Mechanical Turk. *Field Methods*, scheduled for 28(3).
- ¹¹Couper, M.P. (2008) *Designing Effective Web Surveys*. New York, NY: Cambridge University Press
- ¹²Bosnjak, M., Neubarth, W., Couper, M. P., Bandilla, W., & Kaczmirek, L. (2008). Prenotification in Web-based Access Panel Surveys the Influence of Mobile Text Messaging Versus E-mail on Response Rates and Sample Composition. *Social Science Computer Review*, 26(2), 213-223.



- ¹³Dykema, J., J. Stevenson, B. Day, S. Sellers, and V. Bonham. (2011). "Effects of Incentives and Prenotification on Response Rates and Costs in a National Web Survey of Physicians." *Evaluation and the Health Professions* 34(4):434-447. (doi:10.1177/0163278711406113).
- ¹⁴Bandilla, W., Couper, M., & Kaczmirek, L. (2012). The Mode of Invitation for Web Surveys. *Survey Practice*, 5(3). Retrieved from <http://www.surveypractice.org/index.php/SurveyPractice/article/view/20>
- ¹⁵Holland, L., Couper, M.P., and Schroeder, H. (2014). Pre-notification strategies for mixed-mode data collection. Paper presented at the 69th Annual Conference of the American Association for Public Opinion Research, Anaheim, CA.
- ¹⁶Mavletova, A., and Couper, M.P. (2014). Mobile web survey design: Scrolling versus paging, SMS versus e-mail invitations. *Journal of Survey Statistics and Methodology*, 2(4), 498-518.