



**INSTITUTE FOR SOCIAL RESEARCH • SURVEY RESEARCH CENTER
SURVEY RESEARCH OPERATIONS**

UNIVERSITY OF MICHIGAN

Paradata Session



Framework for this Session

- Four case studies
 - US National Survey of Family Growth
 - China Mental Health Survey
 - US Panel Study of Income Dynamics
 - Kingdom of Saudi Arabia Mental Health Survey



Constraints and Challenges

- Replace traditional evaluation techniques; No audio-recordings on NSFG and KSA
- Explore an unanticipated interviewer production issue (PSID)
- Focus and prioritize resources (CMHS).



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Using Paradata for Interviewer Data Quality Monitoring

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Outline

- Background on the use of paradata dashboards for production monitoring on the National Survey of Family Growth (NSFG).
- Extension of dashboard use for monitoring interviewer data quality.
- Next steps.



Background

- Use of paradata from sample management system to monitor production and guide field interventions (responsive design).
- Compilation of daily graphs arranged into categories: Effort, Active Sample, Productivity, Data Set Balance.
- Interviewer-level reports as well.

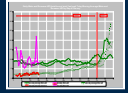


Importance of Paradata for NSFG

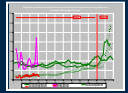
- Understanding the work pattern of quarterly sample.
- Monitoring efficiency compared to past quarters.
- Given 12-week schedule, ability to make quick management decisions to change course.

The NSFSG Dashboard

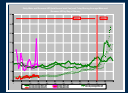
Effort



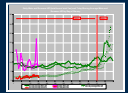
Interviewer's Working



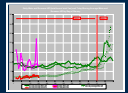
Hours



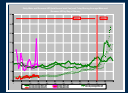
% Productivity



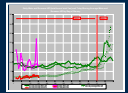
Calls/Day



Calls/Hour

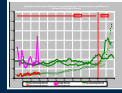


% Peak Calls

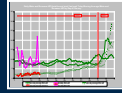


Screener/Main Calls

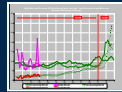
Active Sample



% Occupied



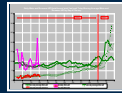
% Eligible



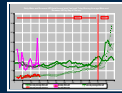
% Nonworked



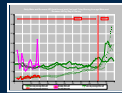
Noncontacts



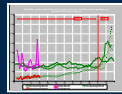
Mean Calls



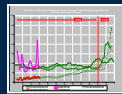
% 8+ Calls



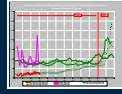
% Locked Bldgs



% Resistant

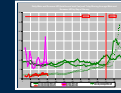


% Hard Appt.

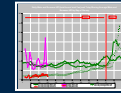


Propensity

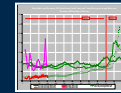
Productivity



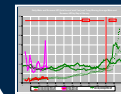
Interviews



Cumulative Interviews

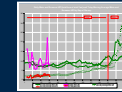


Hours/Interview

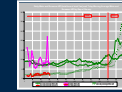


Calls/Interview

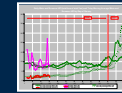
Data Set Balance



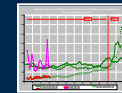
Response Rate



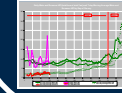
% With Kids



% Sexually Active



Group Rates



CV Group Rates



Paradata and Responsive Design

- Wagner, J., West, B.T., Kirgis, N., Lepkowski, J.M., Axinn, W.G., and Kruger-Ndiaye, S. (2012). Use of Paradata in a Responsive Design Framework to Manage a Field Data Collection. *Journal of Official Statistics*, 28(4), 477-499.
- Kirgis, N. and Lepkowski, J.M. (2012). Design and Management Strategies for Paradata Driven Responsive Design: Illustrations from the 2006-2010 National Survey of Family Growth. Chapter 6 in *Improving Surveys with Paradata: Making Use of Survey Process Information*, Frauke Kreuter, editor. New York: J.W. Wiley and Sons.



Monitoring Interviewer-Level Data Quality

- Audit trail data from the actual Blaise interview.
- Created three factors based on Principle Component Analysis from the past cycle of data collection.
- Nine individual performance indicators.



Indicators

- Field time
- Error escapes, suppressions, jumps
- Backups
- Don't know and refused responses
- Help key use
- Remarks used



Three Factors

- Factor 1: Too Fast
- Factor 2: Many Error Checks
- Factor 3: Many 'Don't Know' and 'Refused'



Example of Factors

Average of Zscore		Column Labels <input type="button" value="v"/>							
		<input type="checkbox"/> C8				<input type="checkbox"/> Y2			
		<input type="checkbox"/> Q01				<input type="checkbox"/> Q02			
Row Labels	<input type="button" value="v"/>	W08	W10	W12	W06	W08	W10	W12	
<input type="checkbox"/>	IWER3								
factor1		-0.36	-0.52	-0.54	-0.79	-0.83	-0.74	-0.82	
factor2		3.48	3.41	3.25	-0.83	-0.36	0.26	0.16	
factor3		0.53	0.74	1.47	0.08	0.50	1.20	1.44	



Example of Indicators

Average of Zscore		Column Labels						
		Q01			Q02			
Row Labels		W08	W10	W12	W06	W08	W10	W12
IWER3	avg_backup_perfield_z	-0.26	-0.35	-0.42	-1.26	-1.41	-1.44	-1.46
	avg_DK_perfield_z	1.11	1.37	1.40	0.55	0.77	1.23	1.88
	avg_err_esc_perfield_z	-0.38	-0.36	-0.42	-1.12	-1.17	-0.79	-0.74
	avg_err_jump_perfield_z	0.93	0.62	0.58	-0.11	0.21	0.70	0.32
	avg_err_supp_perfield_z	4.85	4.82	4.86	-0.49	0.18	0.71	0.52
	avg_fieldtime_pervisit_z	-0.54	-0.51	-0.49	0.02	-0.06	-0.06	-0.14
	avg_qhelp_perfield_z	-0.92	-0.75	-0.77	0.11	0.11	-0.09	-0.19
	avg_remclk_perfield_z	2.89	2.91	2.99	2.01	2.58	3.30	3.30
	avg_RF_perfield_z	-0.49	-0.42	0.61	-0.30	0.10	0.71	0.50



Process for Monitoring

- Small production group meets every two weeks to review.
- Discuss interviewers with factors/indicators that look troublesome.
- Decide on interviewer-level intervention.
- Monitor outcomes—look for improvement.



Types of Intervention

- Practice interview: Trip error checks and re-train on techniques for resolving discrepancies.
- Re-train on proper interviewing techniques.
- Increase number of verification interviews.
- Group re-training.
- Investigation at case level.



Next Steps

- Continue to fine-tune variables of interest.
- Develop more user-friendly ways to view the data.
- Better documentation of problems and interventions.
- Implementation on a large panel study.



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Thank you!
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