

Optimizing Response Rates in Web Surveys of Establishments: The Effects of Contact Mode

Motivation

- Strategies that maximize participation in Web-only surveys are in high demand
- However, there is a lack of empirical evidence to guide recruitment decisions in Web-only surveys
 - Especially for surveys of establishments

Email vs. Paper Invitations Reminders

- Findings from individual/household survey literature (see background paper) are inconsistent
- Sometimes email invitations are more effective than paper invitations, other times not
- Prenotification literature suggests that paper invitation followed by email reminder improves response rates over an email-only contact strategy
 - But empirical evidence is mixed

Limitations of Previous Studies

- Small sample sizes
- University populations
- Email and postal addresses are both known
- Contact information is valid and regularly updated

Issues with Establishment Populations

- Email addresses lacking for many establishments
- Even email addresses provided by establishments through previous survey participation may be outdated

Possible Remedies for Establishment Surveys

- In the case of invalid email addresses, supplementary paper contacts can be used to administer invitations/reminders
- If email address is entirely lacking, paper contacts can be administered from the outset
- Alternatively, establishments can be sent a prenotification letter with request to provide email address to receive email invitation
 - But increases costs and unclear whether establishments are willing to comply with such a request
 - Even if not, may still increase likelihood of response to subsequent paper invitation

Further Research Gap: Nonresponse Bias

- Besides response rates and costs, also important to consider effects of contact mode on nonresponse bias
- Response rates only weakly correlated with nonresponse bias (Groves 2006)
- High response rates do not imply low NR bias, just as low response rates do not imply high NR bias
- Detailed auxiliary information lacking in most NR studies

Research Questions

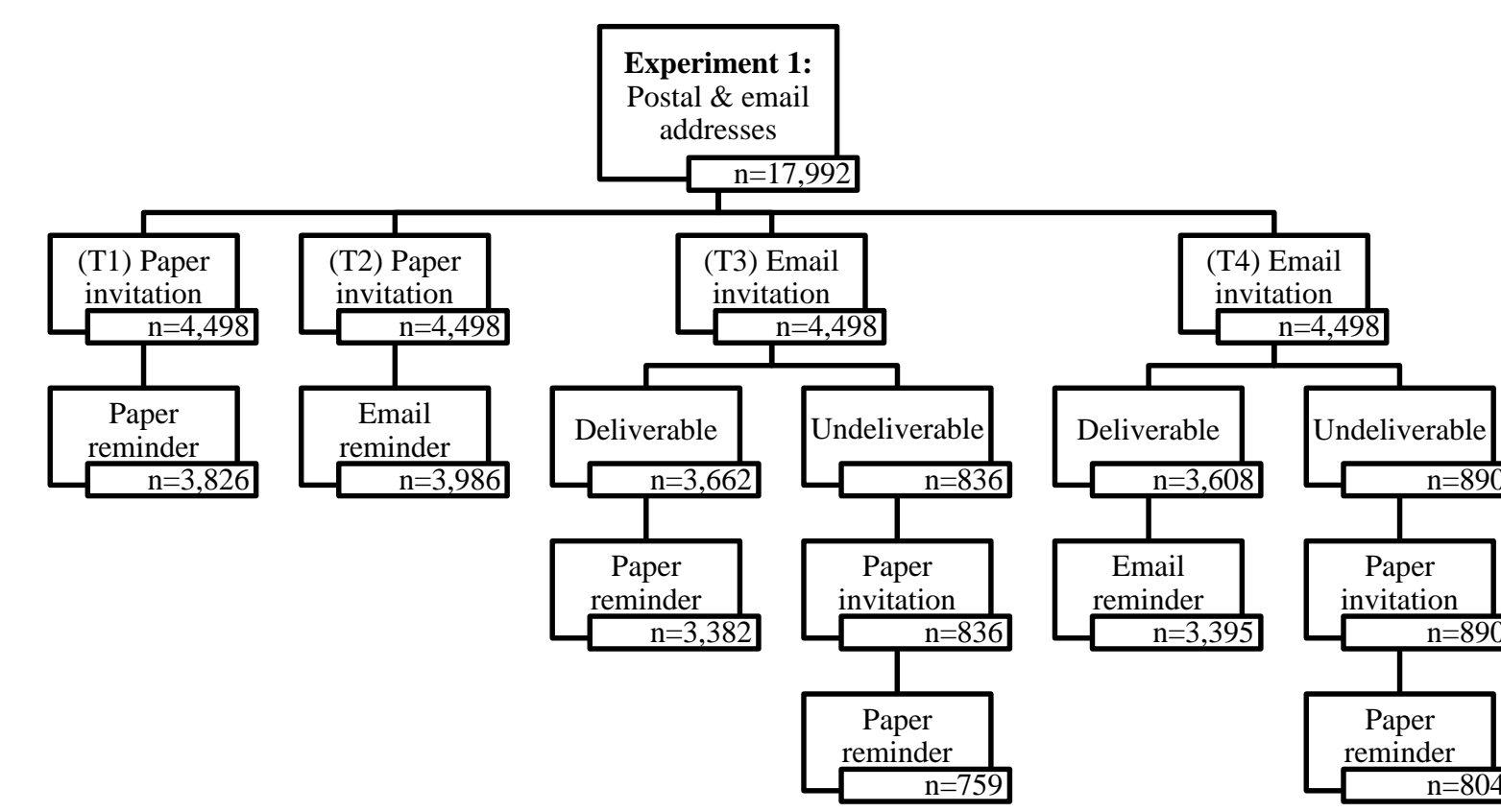
- 1) What is the effect of paper vs. email invitations on response rates to a Web-only survey of establishments?
- 2) Which combination of paper and email invitation/reminder modes maximizes response?
 - How useful are supplementary paper contacts for handling undelivered email invitations?
- 3) Are establishments willing to provide an email address to receive an email invitation? How does this strategy compare to a paper-only contact strategy?
- 4) What is the impact of different contact mode strategies on nonresponse bias and costs?

Survey Data Collection

- “One-off” Web-only survey of Human Resource (HR) officers about factors that influence hiring decisions made when filling job vacancies
- Conducted by the IAB between Nov 2014 – Jan 2015
- N = 29,513 public and private establishments recruited
 - All previously participated at least once in the mixed-mode (mail/Web) IAB Job Vacancy Survey (JVS) from 2010-2012
 - All employed at least one individual in one of 25 target professions
- Establishments sampled from IAB register data
 - Register includes all establishments in Germany with at least one employee liable for social security contributions

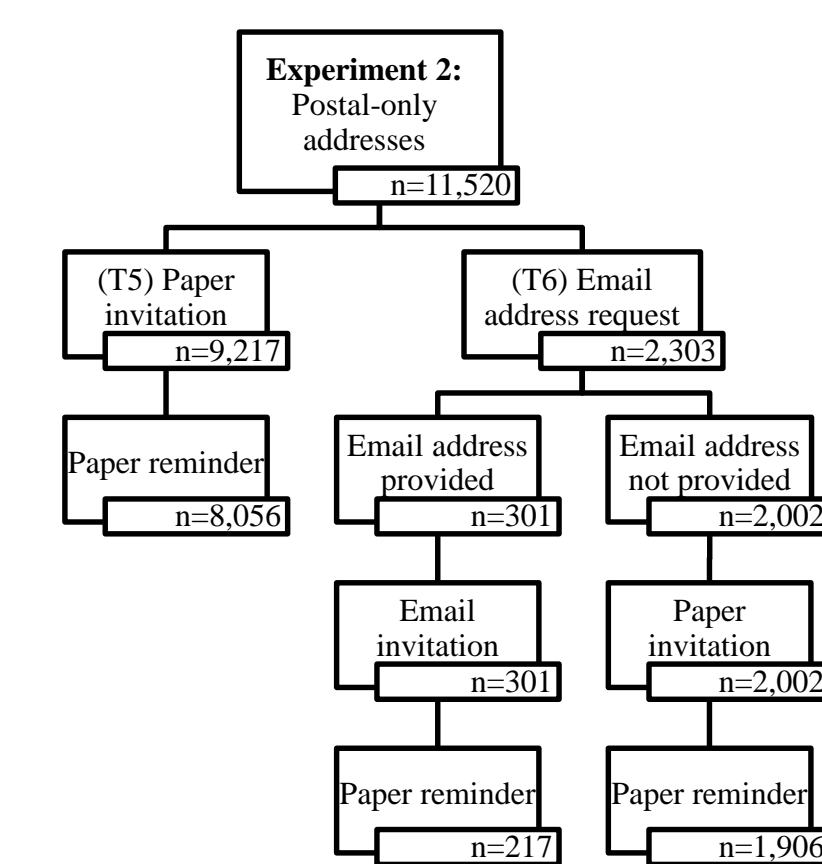
Experiment 1 (Postal-Email Addresses): T1-T4

- Fully crossed paper/email invitation/reminder modes (N=4,498)
- Supplementary paper contacts for undeliverable email invitations



Experiment 2 (Postal-Only Addresses): T5-T6

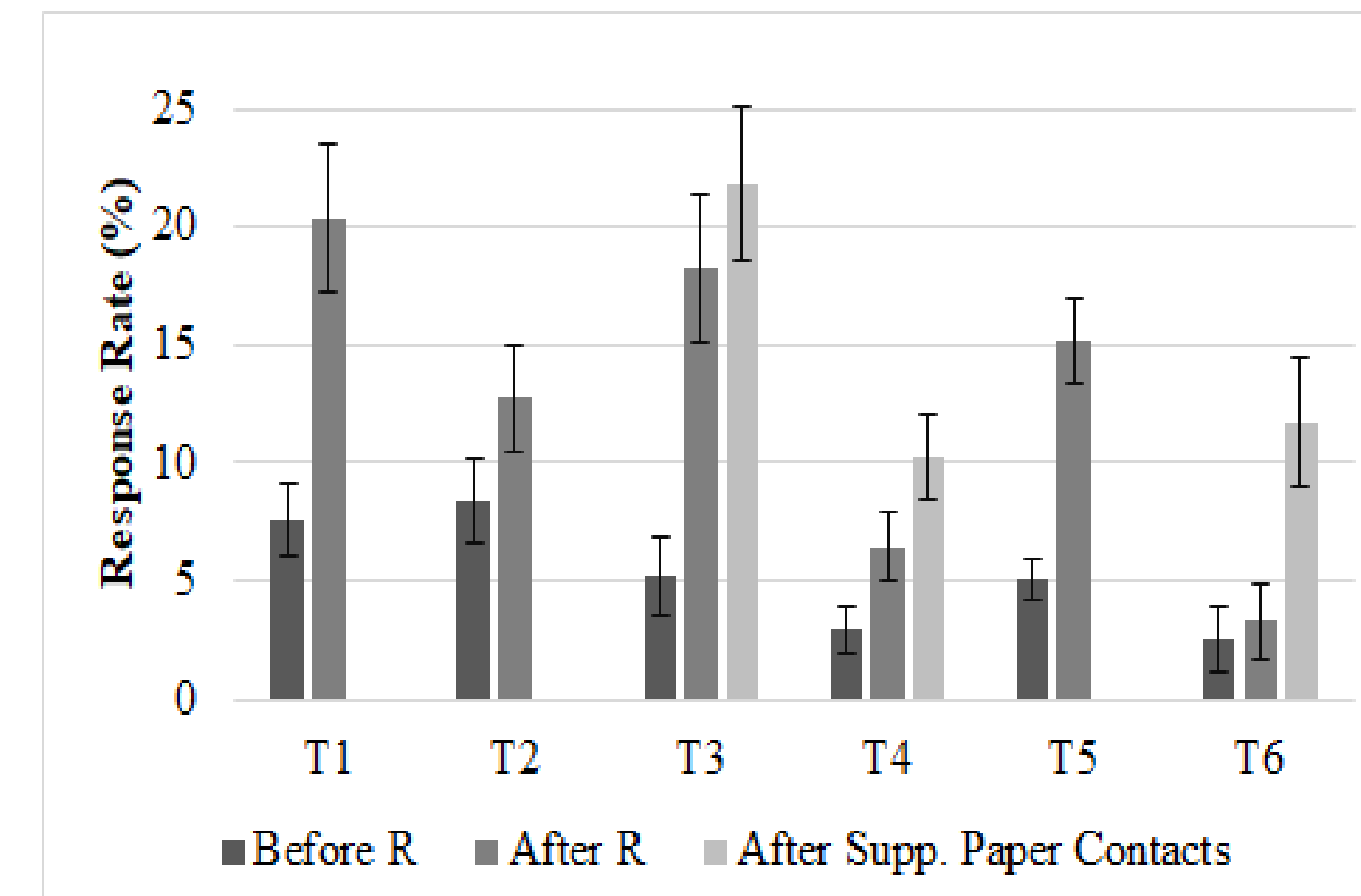
- Paper-only contact group (N=9,217)
- Prenotification letter sent with email address request (N=2,303)
- Supplementary paper contacts administered to prenotification NRs (N=2,002)



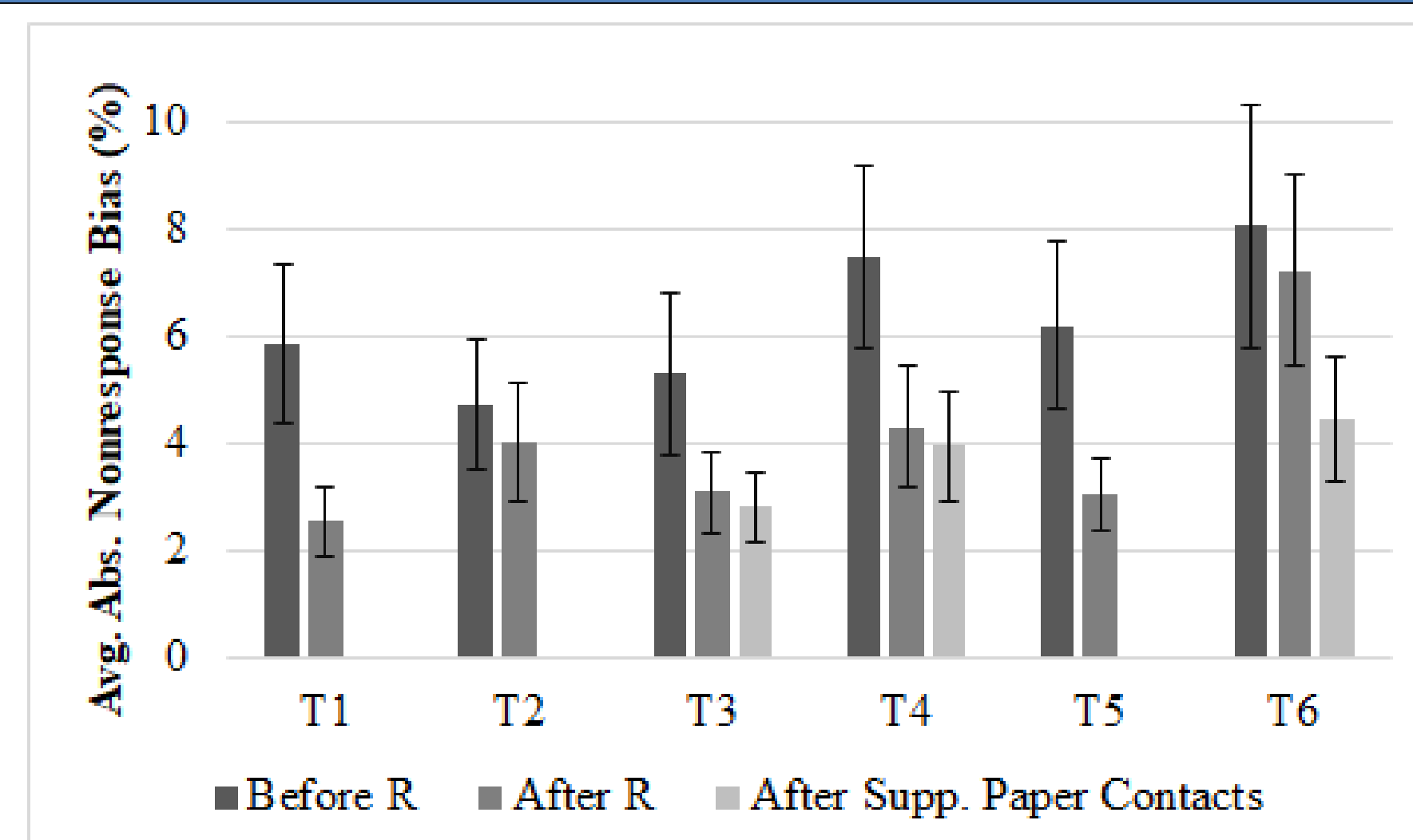
Additional Study Details

- Included the salutation “Dear sir or madam”
 - Used even in the case of personalized email addresses
- All invitations/reminders included access link to the Web survey and personalized password

Results: Response Rates by Treatment Group



Results: Average Absolute Nonresponse Bias



Results: Total Costs

	Experiment 1: Postal-email addresses (N=17,992)				Experiment 2: Postal-only addresses (N=11,520)	
	T1	T2	T3	T4	T5	T6
Sample size	4,498	4,498	4,498	4,498	9,217	2,303
Total costs (in Euros)						
Before reminders	2,620	2,620	0	0	5,369	1,472
After reminders	4,849	2,620	1,970	0	10,062	1,598
After supp. paper contacts	--	--	2,899	987	--	3,874
Total costs per respondent						
Before reminders	5.20	5.12	0	0	6.83	17.72
After reminders	4.63	3.24	2.37	0	5.96	14.93
After supp. paper contacts	--	--	0.90	1.46	--	6.80

Conclusions

- Paper-only invitation/reminder strategy maximizes Web survey participation
- Email-paper superior to reverse sequence and performs similarly to paper-paper at a substantially lower per-respondent cost
- Supplementary paper contacts are useful for obtaining responses from establishments with invalid/unknown email addresses
 - Also reduces aggregate NR bias and per-respondent costs
- However, survey organizations should not go out of their way to solicit email addresses from establishments
 - Ineffective from cost and error perspective, relative to paper-only contacts