

Increasing the Response Rate to a Mailed Questionnaire by Including more Stamps on the Return Envelope: A Cotwin Control Study

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Twins taking part in two unrelated studies were sent a questionnaire together with a self-addressed envelope that either carried one or multiple (up to 5) stamps to the same value. The unprompted proportion of questionnaires returned (before commencement of telephone reminder calls) was increased from 62% to 71% in one study, and from 43% to 52% in the other study (test for common odds ratio in studies, $p = 0.04$).

A large number of procedures to improve response rate to mailed questionnaire surveys are described in the survey literature (Linsky, 1975; Moser & Kalton, 1979; Fowler, 1993). These include optimisation of questionnaire layout and length, the use of an introductory or approach letter which can be separately mailed or mailed under the same cover, introductory telephone calls, and the provision of prepaid return envelopes. It has been shown in several experiments that subjects are more likely to return a questionnaire if a stamped return envelope is provided, as opposed to a business reply envelope (Linsky, 1975). Presumably in the latter case the perception is that the researcher does not lose financially if the subject fails to return the envelope. In a similar vein, increasing the number of stamps on the questionnaire mail-out envelope has been shown to increase the response rate over those sent with a single stamp (Linsky, 1975). In the present study, we compare the response rate to a "supranormal" stimulus by increasing the number of postage stamps from one up to five per pre-addressed return envelope.

Method

All the subjects were volunteer members of the Australian NHMRC Twin Registry (ATR). They were taking part in two unrelated studies (Duffy et al., 1993, 1998) in the period May and June 1991. The first was a pilot study for a followup survey of individuals who had reported suffering from asthma on a questionnaire 10 years earlier (Duffy et al., 1990) (84 twin pairs resident in Brisbane, Queensland), the other a followup survey of individuals who had reported suffering from psoriasis in the same questionnaire (169 pairs resident throughout Australia).

For administrative convenience, the ATR identification number was used to select one twin ("Twin 01") from each pair to receive the single stamp, the cotwin ("Twin 02") receiving the multiple stamp return envelope. Envelopes in the multiple stamp arm of the study carried between three and five stamps to the same value as the single stamp used in the other arm of the trial. Questionnaires returned up until the start of telephone reminder calls, used in both studies, were counted as an unprompted return. An unmatched logistic regression analysis has been used to compare response under the two conditions, stratified by the study in which the twins were taking part.

Table 1
Response Rates to Mailed Questionnaires

Study	Number (percent) returned	
	Multiple stamps per envelope	One stamp per envelope
Asthma pilot	60/86 (71%)	52/86 (60%)
Psoriasis	88/169 (52%)	73/169 (43%)

Results

Twins in the multiple-stamp arm returned 71% of questionnaires in the asthma study and 52% in the psoriasis study. This was significantly higher (common odds ratio = 1.46, $p = 0.037$) than that from the single-stamp arm: 61% and 43% respectively (see Table 1). There was no evidence of a study x stamp interaction ($\chi^2_1 = 0.04$).

Conclusion

We found that twins in two questionnaire studies who received return envelopes with multiple stamps were

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approximately 10% more likely to return questionnaires without further prompting than their cotwins who received envelopes with single stamps. This effect was constant over two studies that differed 1.4-fold in their overall response rates, and is larger than the effect (+ 4.1%) of moving from a business reply envelope to a stamped reply envelope in one study (Moser & Kalton, 1979). The increased return rate must be weighed against the added cost in time and effort of affixing multiple stamps, but where the initial return rate is paramount, this is one more effective strategy to increase the response to a mailed survey.

References

- Duffy, D.L., Battistutta, D., Martin, N.G., Hopper, J.L., & Mathews, J.D. (1990). Genetics of asthma and hayfever in Australian twins. *American Review of Respiratory Disease*, *142*, 1351–1358.
- Duffy, D.L., Spelman, L.S., & Martin, N.G. (1993). Psoriasis in Australian twins. *Journal of the American Academy of Dermatology*, *29*, 428–434.
- Duffy, D.L., Mitchell, C.A., & Martin, N.G. (1998). Genetic and environmental contributions to asthma. A cotwin-control study. *American Journal of Respiratory and Critical Care Medicine*, *157*, 840–845.
- Fowler, F.J. (1992). *Survey research methods* (2nd ed.). Newbury Park: Sage.
- Linsky, A.S. (1975). Stimulating responses to mailed questionnaires: A review. *Public Opinion Quarterly*, *39*, 82–101.
- Moser, C., & Kalton, G. (1979). *Survey methods in social investigation* (2nd ed.). Aldershot: Gower.