IS 160 THE LIMIT?

Length of responses to open-ended questions in SMS in the context of other research modes

INTRODUCTION

One of the most widely used data services worldwide (Kuntsche & Robert, 2009), SMS provides unprecedented opportunities for researchers to bidirectionally communicate with participants wherever they may be, at any time of day (Haller, Sanci, Sawyer, Coffey, & Patton, 2006).

This opens many possibilities for single or repeated measures research involving detailed individual differences-focussed explorations across a plethora of psychological topics.

However there is limited rigorous, methodical examination of its properties as a tool for psychological research (Cocco & Tuzzi, 2012; Tomlinson et al., 2009).

As technologies allowing the stitching of multiple SMS into longer messages become increasingly available, the amount of data that can be gathered via SMS (i.e. the length of responses that can reasonably be expected) needs to be explored.

This study aimed to ascertain the most likely response length for an open-ended SMS question, by comparing the length of responses volunteered using SMS in the context of paper, online and email questionnaires, taking into account within-subjects differences in response length verbosity.

METHOD

Participants: four hundred and sixty three psychology students (228 female, 151 male, 84 unspecified) aged 16 - 55 (M=20).

Procedure: On two occasions, in laboratory classes, participants answered an open-ended question embedded in a questionnaire that also contained flanking Likert-style responses. At time 1, participants were randomly assigned to complete the questionnaire by SMS, email, online survey, or paper survey. In the SMS condition, the questionnaire was texted to participant's personal mobile numbers; in the email condition, it was sent to a personal email address they provided. Two weeks later, at time 2, all participants completed a second questionnaire on paper.

RESULTS

K-sample Anderson-Darling Tests of response lengths (in characters) at time 1 indicated that there was a significant difference in the shape of response length distributions across modes (unadjusted for ties t=4.086, p=0.003, figure 1).

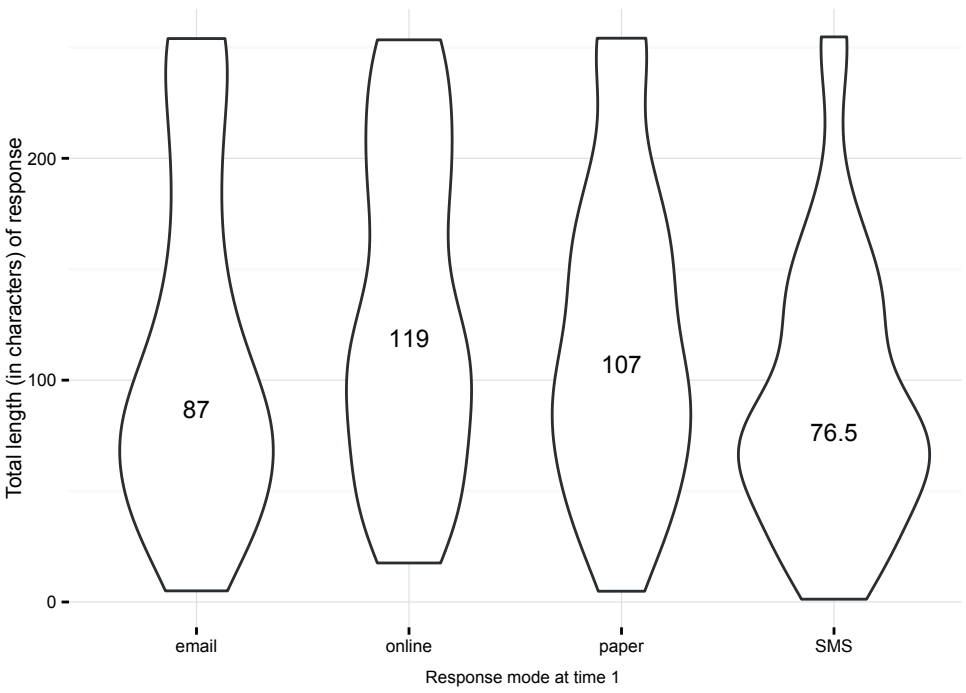

Figure 1: Distribution shape of response lengths, by mode. The median response length for each mode is displayed on each distribution.

Significant results from mixed within- and between- subjects ANOVA performed on responses at time 1 and time 2 (Figure 2) were clarified with post hoc within-subjects paired t-tests. Responses (in characters) were significantly shorter at time 1 in those who responded via SMS $t(72) = 6.781$, $p<.000$) and email $t(63) = 3.434$, $p= 0.001$) compared to responses at time 2 (completed on paper). There was not a significant difference between time 1 and time 2 in those who responded first via online survey or paper on both occasions.

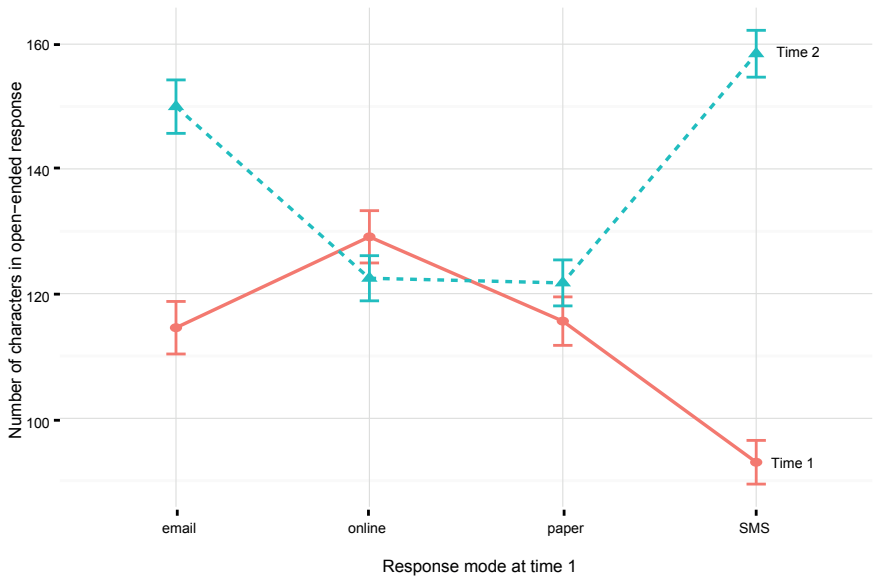

Figure 2: Average length of response (number of characters) in responses by mode, across occasions. Error bars represent SE. Only respondents at time 1 and 2, n=304, are included.

DISCUSSION

The response length to an open-ended question embedded in a larger questionnaire was meaningfully impacted upon by response mode, and this went beyond the individual propensity toward verbosity.

SMS response lengths were statistically significantly shorter than those yielded in other modes, but the pragmatic difference was relatively small.

Results suggest that SMS is a viable mode for research involving open-ended responses embedded in a questionnaire, as long as that the question may be adequately answered in around 90 characters.

The response length in the current study was similar to SMS usage in non-research settings, where the motive for SMS use is usually more social than informational. The fact the message was sent is more important than its content (Frehner & Lang, 2008), and as a result the message tends to be brief (Cocco & Tuzzi, 2012).

Interestingly, the pattern of response lengths in the current study was more similar between SMS and email than online or paper responses, in terms of both mean and distribution shape based analyses.

This may be because SMS and email involved bidirectional communication in the current study (as participants replied to messages sent to them personally), while paper and online responses were given in a more impersonal, unidirectional way. This bidirectional communication may engender a more social response pattern akin to non-research SMS usage, so resulting in shorter responses

REFERENCES

Cocco, M., & Tuzzi, A. (2012). New data collection modes for surveys: a comparative analysis of the influence of survey mode on question-wording effects. Quality and Quantity. doi:10.1007/s11135-012-9708-1

Frehner, C., & Lang, P. (2008). Email - SMS - MMS: The Linguistic Creativity of Asynchronous Discourse in the New Media Age. Bern, Germany: International Academic Publishers.

Haller, D., Sanci, L., Sawyer, S., Coffey, C., & Patton, G. (2006). {R U OK 2 TXT 4 RESEARCH?} Feasibility of text message communication in primary care research. Australian Family Physician, 35(3), 175–176. Retrieved from http://www.racgp.org.au/afp

Kuntsche, E., & Robert, B. (2009). Short Message Service (SMS) Technology in Alcohol Research - A Feasibility Study. Alcohol and Alcoholism, 44(4), 423–428. doi:10.1093/alcalc/agp033

Tomlinson, M., Solomon, W., Singh, Y., Doherty, T., Chopra, M., Ijumba, P., Tsai, A. C., et al. (2009). The use of mobile phones as a data collection tool : A report from a household survey in South Africa. BMC Medical Informatics and Decision Making, 8(1), 1–8. doi:10.1186/1472-6947-9-51

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