

The Web-Based Survey: A 2 x 2 Experiment

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Society has been modified by changes in technology. With computer and the Internet, data is able to be input, processed, transferred, and output faster and with greater variety than ever before. Within research, web surveys have gained popularity in their usage, especially as they provide social researchers quick responses, less maintenance in data cleaning, and lower costs, but have, unfortunately, been plagued with validity concerns, especially those involving response rates as web surveys have generally failed to attain the response rates of equivalent traditional paper surveys (Crawford, Cooper, & Limias, 2001). Part of the problem has been the proliferation of "surveys" within emails, pop-ups advertisements, and embedded within many web sites. However, part of the problem may be that researchers have assumed that strategies for boosting response rates within paper surveys should be effective for web surveys, yet they have not proven effective (Porter & Whitcomb, 2005). While several experiments have examined different methodologies for web survey protocol, Kaplowitz et al. (2004) noted that Dillman's (2000) Total Design Method for survey research took many years to develop, and ongoing exploration of web-based surveys is necessary. Experiments in web surveys have generally explored several ways to increase the response rate: variations in the type and style notification, variations in the web-survey itself, variations in incentives, and variations in reminders and follow ups. Within the current study, the variations involved two types of initial contact via email and variations in survey reminders and follow-up. Specifically, the aims of the present study were to examine the effects of permission to opt out of the survey and comparisons of time between follow up emails.

A potential cause for high nonresponse rates within web surveys have been the proliferation of surveys found on the Internet. Most individuals online have encountered requests to participate in a survey; the experience for most is hardly unique. Also, as identity theft has grown, protection of personal identity has become a major concern for many people, causing many to be in a defensive mindset while on the Internet (Reed, 2006). Therefore, a potential strategy for the initial contact may be to allow the participant to "opt out" of receiving additional survey information. The intentions of this strategy were twofold. First, it was to increase response rate as it was a form of the researcher asking permission to survey the subject. Secondly, since anonymity was given to participants, it allowed a record of those individuals who would not reply, but could be placed in a list of individuals who had already replied and may be more willing to respond to a short survey to measure the representativeness of the other respondents. Therefore, permission to withdraw was one factor within the present study.

The second factor was the amount of time between reminders as Crawford et al. (2000) have proposed that a shorter time between reminders may increase response rates. However, in a manuscript on research methodology potentially unique to sport, Turner, Jordan, and Sagas (2006) recommended that due to differences within the coaching seasons, timing of the survey may create a difference in response rates. Therefore the second factor in the present study was time between reminders, with one level having one week between reminders, while the other level receiving two weeks between reminders.

A 2x2 experiment was established to assess these factors, with one factor the withdraw or remain factor (W or R) and the other either one (S) or two (L) weeks between reminders. The experimental conditions were embedded in a survey to NAIA coaches on general coaching satisfaction. NAIA coaches were studied as many NCAA college coaches are oversampled, creating an additional barrier for data collection (Turner et al., 2006). Coaches were selected through random cluster sampling procedures with schools randomly selected from a list on the NAIA webpage and all listed coaches from track, baseball, softball, and tennis selected. They were randomly assigned to one of the four groups of 72 coaches with a small group of coaches retained for replacements for coaches who no longer were at the college and had yet to be replaced. Initial notification of the upcoming survey was identical except for the coaches in two groups receiving notification that if they would prefer to not receive any additional emails, to reply to the original message and their name would be removed. Only two coaches requested removal from the list. After removing these two coaches, 286 (4x72 - 2) coaches from the 4 groups received the link to the online survey, with each group receiving unique links. It should be noted that all surveys were identical, and follow up reminders only differed in the amount of time between deliveries.

Results suggested an effect for the permission factor, but no effect for the time factor. The P x S reminder had 30 respondents (42%), NP x S had 37 respondents (51%), P x L had 31 respondents (43%), and NP x L had 41 respondents (57%). A chi-square test was used to examine all four groups, with no significant difference found ($\chi^2 = .50$, NS). In comparing the permission factor, a significant difference was found ($\chi^2 = 4.50$, $p < .05$). However, as can be observed by casual examination, no significant difference were found for the amount of time between reminders ($\chi^2 = .50$, NS). It should be noted that

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respondents represent individuals who completed usable surveys. In all, 7 individuals abandon surveys before completion. While abandoners may hurt response rate, their data may sometimes be used to aid in evaluating the representativeness of nonresponders which paper surveys cannot accomplish (Crawford et al, 2000).

Results suggest that while length of time created no significant differences on response rates within the groups, expressing to participants the option of opting out of the survey significantly lowered the rate of response, the opposite of the original expectations. This differential return may have occurred because participants could have felt that the survey has less importance. Additionally, as only 2 coaches requested to be dropped, little value in testing for representativeness could be gained by contacting those two coaches. Overall, however, a 48% response rate is much higher than generally found for web-based surveys (Crawford et al., 2000) and paper versions of surveys for college coaches (Turner et al, 2006). While it is speculation, other meaningful factors that were not explicitly part of the experiment could have aided in improving the response rate from previous research using web-based surveys within coaching (Ryan & Sagas, 2006). First, as mentioned previously, NAIA coaches were used, and it is likely they have not been as oversampled as NCAA coaches (Turner et al., 2006). Additionally, as personalization has been shown to increase response rates (Heerwegh et al., 2003); each email contact was personalized with the coach's name. Also, the survey was completed near the end of the summer, and one benefit web-based surveys may have over paper versions is that coaches during the summer will be more likely to check their email than their regular mail as this requires an individual to be on campus, yet email can now be checked from virtually anywhere. Since coaches may keep in contact with other coaches, administration, and athletes throughout the summer months via email, they are likely still checking it periodically, even while on vacation. These factors, as the permission and time factors, need further examination as researchers look at methods of improving representativeness of web-based surveys.