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Using a Contingent, Nonmonetary Incentive to Increase the Response Rate to a Personally-Initiated, Self-Administered Survey among College Students

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An experiment was conducted to determine how effective a contingent, nonmonetary incentive would be at inducing college students to participate in a personally-initiated, self-administered survey. A contingent, nonmonetary incentive is a gift that is offered and delivered at the beginning of the survey, but it is offered while making the survey request and delivered only if the potential respondent agrees to complete the survey. The experiment was conducted outside a large public university library in Los Angeles County. As students exited their university library, an interviewer approached them for an interview. Half of those approached were offered a contingent, nonmonetary incentive; the other half were not. The incentive dramatically increased the response rate to the survey. Explanations are offered as to how the incentive increased the survey response rate.

Keywords: nonmonetary incentive, self-administered survey, response rate; contingent

Introduction

Most of the research on survey incentives has been conducted with mail surveys. The preponderance of evidence from this body of research indicates the following: 1) prepaid incentives produce higher response rates than promised ones (Berk et al. 1987; Church 1993; Gajraj et al. 1990; Gelb 1975; Goodstadt et al. 1977; Goyder 1994; Singer 2002; Wotruba 1966); 2) monetary incentives yield higher response rates than nonmonetary gifts (Church 1993; Hansen 1980; Ryu et al. 2005; Singer et al. 1999); 3) larger incentives are associated with larger response rates (Church 1993; Szelenyi et al. 2005; Yu & Cooper 1983); and 4) diminishing marginal returns occur as incentive value increases (Armstrong 1975; Fox et al. 1988; Szelenyi et al. 2005).

Previous researchers have emphasized that the impact an incentive will have on the survey response rate will be related to the mode of interviewing (Lynn 2001; Singer et al. 1999). In a mail survey, an incentive should stand out to serve as a prime motivator of response, especially for those who have little interest in the survey topic or sponsor. However, the use of an incentive with a personally distributed survey would seem to be less effective, for the persuasive properties of the survey distributor (e.g., his or her physical attractiveness, personality, and charm) could swamp the effect of any incentive. Although little research has been published that directly investigates how survey mode and survey incentives interact with each other (for an exception, see Ryu et al. 2005), a couple of reviews of the literature suggest that incentives are more effective in mail surveys. In his meta-analysis of the mail survey literature, Church (1993) found that incentives cause, on average, an increase of the response rate by 13 percentage points. Singer

(1999), in contrast, found that incentives increase the response rate to interviewer-mediated surveys by about three percentage points (Lynn 2001).

Although incentives have been well researched in mail surveys, relatively little is known how incentives affect the response to interviewer-mediated surveys. When a prepaid incentive is used in a mail survey, it can easily be delivered to a potential respondent before the survey is completed and thereby provide a motive for the surveyee to complete the survey. That is, with the prepaid incentive in the potential respondent's hand, the potential respondent can experience dissonance (Hackler & Bourgette 1973) or a need to reciprocate the favor (Goulder 1960). These psychological feelings can motivate the surveyee to respond to the survey. Yet, in the context of a personally initiated, self-administered survey, it may be difficult to place a prepaid incentive in the surveyee's hands. Dommeyer et al. (2008) experienced this problem when offering a free Scantron form[1] to college students who were about to be asked to participate in a self-administered survey. Contrary to expectations, the survey takers discovered that many of those who were offered the free, prepaid incentive would not accept it. It appears that many of the potential respondents were suspicious of the "free offer," refused it, and cut off any invitation to be interviewed. Consequently, students who were offered the prepaid incentive were less likely to respond to the survey than those who were not offered a prepaid incentive (16% vs. 31%, $p < .025$).

If a prepaid incentive is to be successful in a personally initiated, self-administered survey, it would appear that the incentive must have several qualities. First, it must be an incentive that not only attracts the interest of most surveyees, but it also must appear to be of high enough value to be considered fair compensation for completing the survey. If the incentive does not stimulate the surveyee's interest, it is doomed to failure as was evident in the Dommeyer et al. (2008) study. But, above and beyond the interest factor, the incentive must be of sufficient value to compensate the surveyee for his or her time in completing the survey. Otherwise, the surveyee may not accept the "deal" of completing the survey for the incentive. By tying the incentive offer to the survey request, the survey taker is able to reveal to the potential respondent what the "free offer" involves. This transparency should make the "free offer" more inviting to the potential respondent than one where all the details of the "free offer" are not disclosed. Should the potential respondent not find the incentive attractive, he or she will still have the option of completing the survey.

The primary purpose of the present study is to determine how a contingent, nonmonetary incentive will affect the response rate to a personally distributed, self-administered survey among college students. However, we are also interested in how the incentive will affect the quality of response to the survey. Previous survey researchers have conjectured that a prepaid incentive can affect response quality in either a positive or negative direction. Dillman (2007), for example,

[1] A Scantron form is used by students to record their answers to multiple choice exams. Students must provide their own forms when taking an exam. Each form would cost the student 25 cents if purchased individually at the campus bookstore.

uses social exchange theory to explain how prepaid incentives may enhance the quality of survey response. The incentives, he notes, not only should increase the potential respondents' trust in the survey administrator, but they should also act as a reward. The combined effect of these factors should cause the respondent to answer the survey questions seriously and completely. Hansen (1980), on the other hand, uses self-perception theory to explain how prepaid incentives may adversely affect the quality of survey response. Since the incentive is serving as an external motivator of survey response, those who respond to the incentive may have little interest in the survey itself. Their lack of interest in the survey may cause them to put little thought into their answers or to provide incomplete responses. Although most studies have found that incentives do not adversely affect response quality (Davern et al. 2003; Shettle & Mooney 1999; Singer et al. 1999), a few have found that they marginally increase response quality (Singer et al. 2000; Willimack et al. 1995).

A final area we would like to investigate is how a contingent, nonmonetary incentive affects sample bias, i.e., the type of person responding to the survey. Most of the studies that have examined the effect that survey incentives have had on sample bias have not found that the incentives have created any serious sampling distortions (Goyder 1994; Singer et al. 1999; Willimack et al. 1995). Some have argued that incentives can be used to attract those who otherwise might be underrepresented in a survey, e.g., people of low income or minorities (Singer et al. 1999; Martin et al. 2001). Mack et al. (1998), for example, found that a $20 incentive was effective at recruiting panel members from black and low income households, while Abreu et al. (1999) found that a $20 incentive was successful at recruiting people of low income to a panel.

Method

A self-administered, four-page survey was created to measure college students' attitudes towards web sites that rate professors, e.g., ratemyprofessor.com. The survey consisted of 17 questions, some of which required multiple responses.

The experiment was conducted outside the main library of a large public, four-year university in Los Angeles County. As students exited the library, they were asked to complete the survey. In half of the interview attempts, students were exposed to a large hand printed sign that stated: "SURVEY! Students' Awareness and Attitudes of Websites that Rate Professors." Students in this group were greeted and asked the following: "Could you take a few minutes to answer our survey about students' awareness and attitudes of web sites that rate professors?" These students constituted our control group. Students in the treatment group were exposed to a large hand printed sign that stated: "Free Coke!" These students were greeted and asked the following: "Would you like to enjoy an ice-cold Coca-Cola while you take a few minutes to answer our survey about students' awareness and attitudes of web sites that rate professors?" Only students who agreed to complete the survey were given a free Coke.

We felt that offering a free, ice-cold Coke would increase the response rate to the survey since most students like soft drinks. For students to buy an ice-cold Coke on campus would cost about one dollar. We felt the value of the Coke would appear to be fair compensation for students asked to complete the brief survey. Moreover, since the weather during the period of the survey ranged between 99 degrees and 105 degrees Fahrenheit, we felt that students walking from the air-conditioned library into the heat of the day would find that an ice-cold Coke would appeal to a strong physiological need.

To minimize any order bias in the presentation of the treatment and control conditions, we systematically altered which condition was offered first during each day of our interviewing. For example, on our first, third, fifth, and seventh days of interviewing, we made 20 attempts with the treatment, followed by 20 attempts with the control condition. On the second, fourth, sixth, and eighth days of interviewing, we reversed the procedure, making our first 20 survey attempts with the control condition and our last 20 attempts with the treatment. On one of our eight days, traffic exiting the library was light during the period of our interviewing. We, consequently, made only a total of 20 survey attempts on that day, alternating between the treatment and control conditions. In total, we made 150 survey attempts with the control condition and 150 with the treatment. On all of the interviewing sessions, three male students served as the survey administrators. During each interviewing session, students were interviewed on a convenience basis. No attempt was made to make an equal number of interview attempts among males and females within each experimental condition.

The treatment and control groups were compared on the following three dependent variables: response rate, item omission rate, and sample bias. The response rate is defined as the number of usable questionnaires received divided by the number of attempted interviews. A questionnaire was considered usable only if at least 75% of the questions were answered. The item omission rate is defined as the average number of questions left unanswered among those questions that everyone should have answered. In this survey, only eight of the 17 items on the survey are ones that should have been answered by all respondents. Skipping instructions could have allowed some respondents to legitimately skip up to nine items. Therefore, the item omission rate is based only on those eight questions that all respondents should have answered. Finally, sample bias was measured by comparing the treatment and control groups on their answers to six demographic questions, namely sex, class standing, academic major, resident status, unit load, and grade point average.

Results

The treatment had a dramatic impact on the response rate to the survey: 39% of the treatment group responded with a usable questionnaire as compared to only 11% of the control group ($X^2(1) = 338$, $p < .0001$).

Those responding to the treatment exhibited a slightly higher item omission rate than those responding to the control condition: the treatment had an item omission rate of .50 as compared to only .06 for the control group ($t(71) = 2.82$, $p < .01$). One should realize that both of these item omission rates indicate that both groups are completing most of the survey questions that everyone was supposed to answer. For example, a .50 item omission rate means that, on average, one question (from the group of eight questions that were examined) was left unanswered by half of the respondents in the group.

There was no evidence of any sample bias when comparing the treatment and control groups on the six demographic variables. We did notice, however, that 66% of our survey respondents were male and 34% were female. When we compared these figures to what we should expect from our university's census data, we discovered that our survey was overrepresented by males and underrepresented by females ($X^2(1) = 17.95$, $p < .001$). Given that we had a gender misrepresentation in our survey, we decided to investigate whether gender had any effect on our survey or experimental results. We found that gender had no significant effect on responses to any of the survey questions or on the item omission rate. Moreover, as already indicated by our sample bias results, each experimental condition attracted a similar proportion of male and female respondents.

Discussion and Conclusions

The fact that our treatment enticed almost four times as many people to respond to our survey as the control condition suggests that our incentive was of sufficient value for an economic exchange to occur. The value of our ice-cold Coke was no doubt enhanced by the heat wave we were experiencing during the period of our survey, and we suspect that the incentive addressed an immediate physiological need of our potential respondents.

Part of the success of our incentive was no doubt due to the manner in which it was offered. The offer of the incentive was contingent on the potential respondent's agreeing to complete the survey. Offering the incentive in this manner had several advantages. First, it gave the incentive to the potential respondents before they started to complete the survey, thereby obligating them to respond. Several theories suggest that giving an incentive up front should be effective. The norm of reciprocity suggests that people should respond positively to people who have helped them (Goulder 1960). Cognitive dissonance theory indicates that a person who receives a gift may experience dissonance if they are unable to return the favor (Hackler & Bourgette 1973). A second advantage of the contingent incentive is that it is cost effective. The incentive does not have to be wasted on persons who have no inclination to respond to the survey. A final advantage of the contingent incentive is that it can yield a survey response from a person who is not interested in the incentive. Since the contingent incentive is offered with the survey request, the potential respondent can refuse the incentive while agreeing to complete the survey.

The item omission rate analysis indicated that the treatment group was slightly more likely than the control group to leave questions unanswered. This result supports Hansen's self-perception theory (1980) that persons who are attracted to the survey because of the incentive will be less interested in completing the survey than those who respond from the control group. Since the control group respondents are more likely to be responding because of an intrinsic interest in the content of the survey, they should be more likely than those in the treatment group to provide a complete response to the survey.

While we found no evidence that the treatment caused a sample bias, we did notice that response to the offer of the ice-cold Coke varied in a consistent manner: Among those who responded positively to the incentive, the majority of males accepted the Coca-Cola without hesitation while about 90% of the female respondents asked for a different drink, namely a diet soft drink or water. We realized from this response that our treatment could have been even more effective if we had offered a selection of cold drinks to our potential respondents. Future researchers of nonmonetary incentives should consider offering potential respondents the opportunity to choose one incentive from a batch of incentives. Offering a selection of incentives should broaden the appeal of the treatment without significantly increasing the survey costs.

Since the treatment and control conditions were altered systematically throughout the data collection process, any order or selection bias should have been minimized in this experiment. The external validity of our experiment could be limited by the fact that we used student interviewers to survey student subjects on a college campus. Whether results similar to ours would have been obtained while using experienced interviewers to survey an older population off campus remains to be seen.

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