The Effects of Prenotification and Incentive

on Panel Attrition

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Running Head:  PRENOTIFICATION AND INCENTIVE EFFECTS ON ATTRITION

## Abstract

There have been a number of studies investigating the effect of nonresponse on the representativeness of results obtained from a survey sample of the population. One area of investigation into nonresponse has focused on panel attrition. While panel attrition studies have led to an understanding of the effects of panel attrition on data quality and representativeness, no studies have investigated the effects of compensatory strategies such as prenotification and incentives in minimizing panel attrition. Therefore, the present study investigated the effects of prenotification and incentive (both monetary and nonmonetary) on panel attrition. The results indicate that the inclusion of an incentive with a prenotification letter minimizes the attrition of the elderly, females, and lower SES respondents; prenotification by letter alone seems effective in only a limited number of circumstances.

The Effects of Pre-Notification and Incentive on

Panel Attrition

Groves (1989) describes nonresponse error in surveys as arising because, "...some persons...cannot be located or refuse the request of the interviewer for an interview." (p. 11). This kind of error nonresponse can have a significant negative impact on the quality of data obtained and the generalizability of one's findings. For panel studies, nonresponse error due to attrition can affect characteristics of the panel and the validity of conclusions drawn from measurements over time.

According to Lillard (1989), attritors tend to be nonwhite, poor, and frequent movers. He also indicates that the rate of exit from a panel increases with age, especially with the onset of retirement and/or disability. Depending on the research objectives of the study, the conclusions one can reach from the results of a study can be severely undermined through the attrition of participants across waves.

Klerman (1991) found that for black males, ignoring attrition bias leads to a positive time trend for health insurance coverage and that when attrition bias is corrected, the time trend is negative. Fitzgerald and Zuo (1991) found that panel attrition affects sample means but conditional estimates from behavioral models are less affected.

Goudy (1985) states that there are two types of panel

attrition: natural and unnatural attrition. Natural attrition is defined as being beyond the control of the researcher. The most common type of natural attrition is panel mortality. Movement out of the study boundaries also constitutes natural attrition. Unnatural attrition generally involves the inability to locate individuals in the panel or their refusal to participate. While both natural and unnatural attrition can lead to bias (Schaie, 1977), unnatural attrition is the one that is more amenable to compensatory or mitigating strategies.

In dealing with nonresponse, the methodological literature provides compensatory strategies. One way to minimize nonresponse is prenotification; another is the use of some sort of monetary or material incentive. The effects of these two strategies on panel attrition have been rarely tested in the methodological literature. The present study centers on the investigation of these two strategies in minimizing attrition. The body of research dealing with prenotification and incentives will be discussed first followed by a description and results of a field experiment on the effects of prenotification and incentive on panel attrition.

**PRENOTIFICATION**

Heaton (1965) says that prenotification is effective because it introduces and personalizes the researcher and alerts the respondent to the imminent arrival of the interviewer. Fox, Crask, and Kim (1988) state that one would expect that prenotification would increase the response rate because the letter would alert

people to the interviewer's coming and reduce the likelihood that an interested person would disregard it.

Groves and Snowden (1987), however, state that there are two conflicting hypotheses regarding the efficacy of "alerting the respondent to the imminent arrival of the interviewer." One hypothesis states that prenotification warns the individual of an impending visit therefore giving them time to accrue reasons for refusal. The second hypothesis indicates that prenotification might work because the interviewer will feel more confident that he or she will not have to explain the legitimacy of the survey at the doorstep; the study has been introduced in the letter.

Prenotification can be done either by telephone or by letter. Of the few studies that have investigated the effect of prenotification by telephone, some have found no effect (e.g. Groves & Magilavy, 1981) or a negative effect on response rates (e.g. Brunner & Carroll, 1967).

Experimentation utilizing an advance letter is far more common in the literature than prenotification by telephone (Groves, 1989). Again, in the literature investigating the effects of an advance letter on response rates, the results are somewhat equivocal. Some studies have found that an advance letter had a positive effect on response rate (Waisanen, 1980; Furst & Blitchington, 1979; Fox, Crask, & Kim, 1988; Yu & Cooper, 1983; Dillman, Gallegos, & Frey, 1976; Traugott, Groves, & Lepkowski, 1987; Linsky, 1975; and Myers & Haug, 1969), no effect on response

rate (Heberlein & Baumgartner, 1978; Parsons & Medford; 1972; and Slocum, Empey, & Swanson, 1956) or a negative effect on response rate (Cartwright & Tucker, 1966).

Dillman, Gallegos, and Frey (1976) found that those persons who had not received prior warning provided less intelligible answers, were less accurate in expressing their true beliefs and opinions, and may have deliberately given incorrect information.

One potential problem associated with the use of an advance letter is how closely the letter will be read. Dillman, Gallegos, and Frey (1976) suggest that long letters may not be read. Cannell and Fowler (1965) found that in one study, 44% of the respondents said they did not receive the letter. Of those who said they had received the letter, 33% said they had read the letter carefully, 16% said they read the letter quickly, and the remainder said they read neither the letter or the associated brochure.

Groves and Snowden (1987) found some evidence that more female participants read the advance letter than male participants and that lower income groups read the material more frequently than higher income groups. In contrast, Koo (1981) found no effect of an advance letter on medium and high SES people and a negative effect of the letter on lower SES groups. These equivocal results seem to demonstrate the need for further investigation of the possible differential effects of SES on response to a prenotification letter.

In summary, although evidence seems to support the use of an advance letter, the prenotification literature is far from unequivocal. There seems to be some evidence that the advance letter may indeed have a negative effect on response rate and that SES affiliation of the individual may differentially affect participation.

## INCENTIVES

Possible reasons for the effectiveness or ineffectiveness of incentives in raising response rates has been discussed extensively in the literature. Several authors (Linsky, 1975; Pressley & Tullar, 1977; and Wotruba, 1966) found that the motivating power of a 25 cent incentive lies not in its monetary value but in its symbolic or token value. Rosenthal and Rosnow (1975) extend this idea further in explaining why nonmonetary incentives work. Others have applied psychological theories such as dissonance theory (Furse & Stewart, 1982; Hackler & Bourgette, 1983) and exchange theory (Goyder, 1990; and Tedin & Hofstetter, 1982) in explaining incentive efficacy.

The "size" of incentive has also received some attention in the literature. Jobber and Saunders (1988) state that response rates are increased by incentives but that the amount is immaterial. Conversely, James and Bolstein (1990) find that response rate does vary by the amount of the incentive. Regardless, most studies have found that incentives of some sort have a tendency to increase response rates.

While there is a substantial amount of research on the effectiveness of incentives in increasing response rate, the focus of most has been the mail survey. In several reviews of the literature (Armstrong, 1975; Blumberg, Fuller, & Hare, 1974; Fox, Crask, & Kim, 1988; Heberlein & Baumgartner, 1978; Linsky, 1975; Kanuk & Berenson, 1974; and Yu & Cooper, 1983) the inclusion of a monetary incentive was found to increase response rates while only a few studies have found a negative or no effect of incentive on response rate (Bevis, 1948; Kephart & Bressler, 1958; and Wotruba, 1966).

Investigated to a lesser extent, nonmonetary incentives such as ballpoint pens (Houston & Jefferson, 1975) have also been found by most studies to increase response rates relative to a control group (Brennan, 1958; Goodstadt, Chung, Kronitz, & Cook, 1977; Hansen, 1980; Houston & Jefferson, 1975; Nederhof, 1983; Robertson & Bellenger, 1978; Watson, 1965; Whitmore, 1976; and Yu & Cooper, 1983). Only a few studies have found no effect of nonmonetary incentive on response rate (e.g. Brennan, 1958). Further, monetary incentives have been found to be more effective than nonmonetary incentives in increasing response rate (James & Bolstein, 1990; and Kanuk & Berenson, 1975) by some studies while Robertson and Bellenger (1978) found the opposite.

Variance in demographic characteristics across incentive conditions has also been studied in a few studies with inconsistent findings. Some studies have found differential effects of

incentive on SES composition (Gelb, 1975; Goyder, 1990; Nederhof, 1983; and James & Bolstein, 1990) while others have failed to find such a relationship (Dohrenwend, 1970; Erdos, 1957; Furse & Stewart, 1982; Hansen, 1980; Robertson & Bellenger, 1978; and Wotruba, 1966).

Goyder (1990) states the reasons for possible differences in response across SES groups may be because the middle economic strata respond to exchanges involving psychological obligation while the lower economic strata respond in terms of economic exchange. Gelb (1975) demonstrates that one should not expect middle class "dissonance" at taking "money for nothing" to extend to the lower classes.

As stated earlier, many studies that have investigated the effects of incentives on response rate and data quality have done so utilizing a mail methodology; only a few studies have investigated the effects of incentives in a personal or telephone survey. Of these few studies, some have found a positive effect of incentives on response rates (Chromy & Horvitz, 1978; Bryant, Kovar, & Miller, 1978; and Findlay & Schaible, 1978; Miller, Kennedy, & Bryant, 1972) while others found a negative or no effect (Dohrenwend, 1970; Ferber & Sudman, 1974).

In the few studies that have looked at the effects of an incentive within a panel design, the results are conflicting. Dohrenwend (1970) found no effect of incentives on response rate in a panel study. Conversely, Ferber and Sudman (1974) found that

some form of compensation works <u>better</u> for panel surveys than it does for one-time surveys.

**<u>HYPOTHESES</u>**

The present study tests what strategies might be useful in minimizing panel attrition. While most of the literature presented heretofore deals with one-shot surveys rather than panels, the methods used in affecting higher participation rates seem reasonable in combatting nonresponse due to panel attrition. In light of the research previously cited, the hypotheses of the present study are as follows:

I. <u>An advance letter will reduce attrition over control</u>. Even though literature is still somewhat equivocal, the weight of the research seems to support the hypothesis that the inclusion of an advance letter will induce participation.

II. <u>The inclusion of an incentive will reduce panel attrition</u>. Even though most studies did not focus on a panel study and the preponderance of the research has been done utilizing a mail methodology, the positive effects of an incentive on response rate that have been observed in the literature will have a similar effect in a study utilizing a panel design.

III. <u>An incentive will reduce refusal rate</u>. In line with the literature that has concentrated on refusal rates rather than just response rate (e.g. Dillman, Gallegos, & Frey,

1976; and Goyder, 1990), I feel that the nonmonetary incentive will reduce the potential for refusal.

IV.   <u>An incentive will increase respondent availability</u>. Studies have shown that some form of prenotification increases respondent availability in terms of number of calls it takes to reach them (Cartwright & Tucker, 1966; Goodstadt, 1977; Groves & Snowden, 1987; Linsky, 1975; Parsons & Medford, 1972; Traugott, Groves, & Lepkowski, 1987; and Waisanen, 1980).   I hypothesize that the incentive will motivate the individual to avail himself or herself to be interviewed (i.e. less screening of calls with the answering machine during the study period).

V.   <u>The effect of monetary versus nonmonetary incentive</u>. Robertson and Bellenger (1978) found that nonmonetary incentives increased participation rates over an equal cash incentive.   Conversely, Kanuk and Berenson (1975) found that monetary incentives work better than nonmonetary incentives.   In light of this inconsistency and the fact that there seems to be no real systematic administration of a certain type of incentive, this investigation will be exploratory.

Along with these hypotheses, I will investigate the effects of prenotification and incentive on the behavioral, social, economic, and demographic composition of respondents.   Due to the equivocal

nature of findings in the literature to date, these analyses will be exploratory only.

## Method

### Subjects and Instrument

Subjects used in this investigation were part of the National Election Study (NES) Pilot Study, a study that has been conducted biennially by the Center for Political Studies at the University of Michigan Institute for Social Research (ISR) since 1979. The study population for this study is defined to include all United States citizens of voting age on or before the 1990 Election Day. Eligible citizens must have resided in housing units, other than on military reservations, in the forty-eight coterminous states. This definition excludes persons living in Alaska or Hawaii and requires eligible persons to have been both a United States citizen and eighteen years of age on or before the 6th of November 1990.

This 1991 NES Pilot Study, was the second wave of a panel study that started in 1990. The first wave of this design was the NES Post-Election study, a face-to-face survey that was completed prior to the onset of the Gulf War. The total number of completed cases for the Post-Election Study was 2000 for a response rate of 71.4%. While the usual purpose of the NES Pilot Study is to pretest questions and procedures for the next NES Study, the timing of the Gulf War was such those responsible for study design decided to increase the NES Pilot to full sample to measure the effects of war on a number of political and social items. A total of 1385

people were reinterviewed for the NES Pilot Study for a reinterview rate of 69.3%. The NES Pilot Study used a telephone methodology.

## The Experiment

Wave I participants were randomly assigned one of four experimental conditions. The first condition was a control condition (n=425); no one received any form of contact or incentive between Waves I and II in this condition. Subjects assigned to the second conation (n=425) received a standard pre-notification letter stating the purpose of the study, telling them of the impending contact by telephone of an SRC interviewer, and thanking them for their previous participation. No mention of an incentive was included in the letter.

In the third and fourth conditions (both n=425), subjects received, along with the pre-notification letter, either a new one dollar bill or a high quality pen carrying the University of Michigan insignia on it. Since past studies have indicated that administration of the incentive prior to the interview is more effective than some sort of post-payment (Armstrong, 1975; Gelb, 1975; Goyder, 1990; and Wotruba, 1966) all pens were sent prior to contact rather than after. The pen was enclosed in a small black cardboard box with an opening at the top. The opening revealed the pen immediately to the potential respondent. The pen rested in a grey faux-velvet molding, giving the pen an added measure of distinction.

A slip containing the following passage was included in the package sent to those subjects assigned to the incentive condition:

> "We would like you to accept this gift as a small token of appreciation for participating in our survey. Each and every respondent is very important to us, and we would be grateful for your help with this research."

Letters were addressed to the participant and were not franked, but stamped for a feeling of personalization for the potential respondent.

## Measures

**Response/Non-response:** Response is defined as a fully completed interview. Nonresponse is defined as the combination of refusals and noninterviews. Refusals are further defined by the following types: refusal by the respondent, refusal by the informant/other, and refusal by informant before the eligible person was selected.

Noninterviews are defined in terms of no contact with anybody in the selected household, selected respondent ill or incompacitated, or other. To measure any effects of the manipulated variable of precontact, attrition will be defined first as a combination of refusals and noninterviews. Refusal will then be sectioned out to see if the manipulations had a specific effect on unnatural attrition.

**Respondent availability:** As mentioned earlier, several studies have used the number of calls it takes to obtain an interview with an individual as a measure of availability. I will

use information from the control file on the overall number of contacts as a proxy measure of respondent availability.

**Demographic characteristics:**

Age. This was constructed from a question requesting the month, day, and year of birth. The month and year of birth was subtracted from the month and year of the interview. If the year of birth was not ascertained or refused but given by the informant in the household listing, then age from the household listing was used.

In running the crosstabulations presented in the results section, age will be aggregated into five categories with approximately 20 percent of the total sample in each group. For the logistic regression, age will not be aggregated but left continuous.

Gender. Gender was obtained through interviewer observation.

Education. The educational status of the respondent was obtained through the coding of information collected in a series of questions. Departing from past practice in NES, respondents with less than 12 years of college and having passed a high school equivalency test were not coded as completing 12 years of school. Also departing from past practice, respondents who reported more than 12 years of schooling and reporting "don't know" or "not ascertained" in response to the question asking what the highest degree obtained were coded as having 12 or more years of schooling rather than as "not ascertained."

**SES characteristics:**

Income. Reported family income will be used in the proceeding analyses. As with age, income will be aggregated into five categories with approximately 20 percent of the total sample represented in each category.

Home ownership. Home ownership is obtained through response to the question, "(Do you/does your family) own your home, pay rent, or what?". If the respondent states that his/her living situation is part of an arrangement with an employer or owner of the complex, it will be treated as missing and excluded from the analysis.

Employment. Like education, employment status is obtained through a series of questions. For the analyses, employment will be dichotomized into "Working" or "Not Working". The "Working" category will include respondents working at the time of interview, respondents retired or permanently disabled but working 20 or more hours per week, homemakers working more than 20 hours per week, and students working 20 hours or more per week. The "Not Working" category contains respondents temporarily laid off or unemployed at the time of the interview, respondents retired or permanently disabled and working less than 20 hours per week, homemakers working less than 20 hours per week, and students working less than 20 hours per week.

Self Reported Social Class. Like education and employment, self reported social class was also obtained through a series of

questions. Initially, responses were coded into eight categories: lower class; average working; working; upper working; average middle; middle class; upper middle; and upper class. For the analyses, self reported social class will be aggregated into three categories: Low (including lower class, average working, and working); Middle (including upper working, average middle, and middle class); and High (including upper middle and upper class).

**Behavioral Measures:**

<u>Voting behavior</u>. Categories for this variable were obtained through the asking of the following question:

> "In talking to people about elections, we often find that a lot of people were not able to vote because they weren't registered, they were sick, or they just didn't have time. How about you--did you vote in the elections this November?"

Responses were coded as "Yes/No" and will be used to get an idea of how panel attrition may affect the results of the study.

<u>Political Knowledge</u>. Like voting behavior, categories for this variable were obtained through the use of a single question:

> "Some people seem to follow what's going on in the government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in the government and public affairs <u>most of the time</u>, <u>some of the time</u>, <u>only now and then</u>, or <u>hardly at all</u>?"

Responses to this question will be kept in the order that they were obtained. Therefore, when interpreting the results of the political knowledge question are reported, the higher the code, the lower the knowledge.

## Results

At the writing of this paper, the isolation of refusals from other types of noninterview was not possible. At some point it is important to extract refusals in order to see if the attrition observed was due to natural (e.g. death) or unnatural (e.g. refusal) causes. Also in need of investigation are the possible differential effects of prenotification and incentive on the different types of attrition. Therefore, hypothesis III will not be tested at this time but will be the focus of later analysis.

<u>Overall</u>:

Table 1 shows provides the noninterview rates across experimental conditions. As the table indicates, prenotification by letter only did not significantly decrease attrition compared to control, $\chi^2$ (1)=1.08, $\underline{p}$=.30. Conversely, the inclusion of either a dollar or pen incentive significantly decreased attrition compared to control (dollar: $\chi^2$(1)=4.91, $\underline{p}$=.03; pen: $\chi^2$(1)=16.07, $\underline{p}$<.001).

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Insert Table 1 about here

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Table 1 also demonstrates that although the trend is positive, the inclusion of a dollar with the letter is statistically no more effective than just the letter itself ( $\chi^2$(1)=1.40, $\underline{p}$=.24), but that the inclusion of the pen is, $\chi^2$(1)=8.97, $\underline{p}$=.002. Further, the pen seems to be more effective in decreasing

attrition than the dollar, $\chi^2(1)=3.32$, p=.06. These results seem to suggest that the inclusion of a small and inexpensive incentive may reduce panel attrition. No effect of prenotification or incentive on number of calls needed to obtain an interview was observed, $F(3,1290)=.2955$, p=.83; this indicates that potential respondents do not differentially avail themselves to be interviewed across conditions.

Demographic characteristics:

To see what the demographic makeup of the attritors are and how they may vary across experimental conditions, Table 2 shows the distribution of age across conditions. There seems to be an effect of age for both the control and the letter only conditions. This means that for those two conditions, older people are under-represented in the second wave. This bias is not apparent in the incentive conditions.

Insert Table 2 about here

Table 3 shows the distribution of male and female attritors across experimental conditions. In the no contact condition, there was a tendency for females to drop out of the panel when compared to males. This tendency, however, was not observed in any of the other experimental conditions. This potential bias was not observed in either the advance letter or the two incentive conditions.

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Insert Table 3 about here

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While the results of Table 3 imply that the distribution of male and female attritors was not differentially affected by advanced letter or advanced letter with incentive, Table 4 shows that for all experimental conditions, other than the letter/pen condition, lower educated respondents were more likely to drop out of the panel than their highly educated counterparts; this observation is especially true for subjects in the letter/dollar condition. The observation that this particular bias was not demonstrated in the letter/pen condition may indicate that one will retain the lower educated in the panel if they are sent a pen incentive.

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Insert Table 4 about here

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SES characteristics:

Table 5 shows that there was a significant effect of family income on attrition observed only for those in the letter/dollar condition. It seems that people in the lower income categories were more likely to drop out of the panel if they received a dollar along with their prenotification letter. This runs counter to the expectation that the monetary incentive would be most appealing to those of lower SES.

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Insert Table 5 about here

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A number of studies have used home ownership as a proxy measure of SES (e.g. Goyder, 1991). There was a statistically nonsignificant tendency of renters to be underrepresented in the second wave of the panel across all conditions as shown by Table 6. This may be an indication that some sort of contact between panels may eliminate the potential bias introduced through the attrition of renters from the panel.

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Insert Table 6 about here

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Table 7 demonstrates a significant effect of employment status on panel attrition for all but the letter/pen condition. Unemployed individuals tend to be underrepresented in the second wave unless they receive a pen incentive. Again, counter to prior expectation, unemployed people were unaffected by the monetary incentive but seem to be affected by the pen incentive.

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Insert Table 7 about here

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Table 8 shows that there was no significant main effect of self-reported social class on attrition in any condition. This

result may be a function of measurement error associated with the self-reporting of social class.

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Insert Table 8 about here

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Behavioral characteristics:

Not only is important to see what the demographic characteristics and SES of the attritors are, but also important is the effect of attrition on more substantive measures that could affect the results of the study and how the distributions of these variables may be affected by the prenotification or the inclusion of an incentive.

Table 9 provides the distributions of people voting in the last election; a topic of great importance to the NES. The results seem to indicate that there was a tendency for voters to leave the panel across all conditions. However, the tendency did not attain statistical significance.

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Insert Table 9 about here

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Another variable of import to the NES is the one assessing how well the respondents follow government issues. Table 10 demonstrates how people with less knowledge of political issues are more likely to drop out of the panel in all the experimental conditions. However, the effect minimized most significantly in

the letter condition only. The reasons for this are unknown but it seems that in order to minimize the attrition of individuals representing all levels of political knowledge, potential respondents should be sent a letter only. This result deserves further investigation at a later point.

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Insert Table 10 about here

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## Logistic Regression Analysis:

In order to see if the previously observed results held up when other variables were controlled, a logistic regression was run; Table 11 provides the results of the analysis. Interestingly, when incentive was added as a predictor, the previously observed differences in attrition across conditions went away. In other words, when home ownership, education, and political knowledge were controlled, the only significant difference in attrition was observed between the letter/pen and control conditions. This is strange because all people were randomly assigned to conditions and therefore should be unrelated to these variables.

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Insert Table 11 about here

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As the reader can see from the results of logistic regression, the biases observed in the control condition, such as under-representation of renters, the elderly, and the less politically

aware were minimized through the introduction of either a prenotification and/or an incentive.

One interesting observation in Table 11 is for the employment status variable. It seems that for the letter only condition, unemployed people were more likely to stay in the panel. This observation, obtained in no other condition, seems to imply that unemployed people respond better to the advance letter than to any other type of incentive. Also interesting is that the introduction of a dollar incentive exacerbates the bias introduced through the attrition of the lower educated across waves in a panel.

## Discussion

The results of observed in this study demonstrate the effectiveness (and at times the ineffectiveness) of certain strategies designed to mitigate the effects of panel attrition. Overall, attrition was not significantly decreased through prenotification by letter only; although it seemed to minimize the attrition of less politically knowledgeable respondents. However, either a dollar or a pen with the prenotification letter decreased attrition a sizable amount. When observed in greater detail, prenotification with either a dollar or a pen minimizes the bias introduced by the attrition of the elderly, females, and lower SES respondents, and less politically knowledgeable respondents. If one had to chose a specific incentive, the pen seems to be the most effective in curtailing attrition.

Future research should focus on the reasons why incentives work and on whom incentives work. Because this is one of the first studies concentrating on the effects of prenotification and incentives on attrition in a panel study, replication of the design needs to take place. Only through the further investigation of the incentive effects phenomenon will researchers obtain a better and more clearer understanding of when and why to apply such compensatory strategies.

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## Table 1

### Percent of Noninterview by Experimental Condition

|  | Condition | | | |
|---|---|---|---|---|
|  | No Contact | Letter Only | Letter/ Dollar | Letter Pen |
| % Noninterview | 24.6 a | 21.5 ab | 18.2 b | 13.5 c |
| (N) | (402) | (404) | (401) | (400) |

Note: Percentages are different at p.< .10 if they have no subscripts in common.

## Table 2

### Percent Noninterview by Respondent Age and Experimental Condition *

|                | Condition | | | |
|----------------|-----------|-----------|-----------|-----------|
|                | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| Respondent Age |           |           |           |           |
| 18 - 28        | 19 (84)   | 16 (70)   | 24 (71)   | 13 (68)   |
| 29 - 36        | 23 (83)   | 18 (63)   | 16 (68)   | 15 (79)   |
| 37 - 47        | 23 (80)   | 23 (96)   | 11 (76)   | 9 (82)    |
| 48 - 64        | 27 (78)   | 18 (87)   | 13 (91)   | 11 (92)   |
| 65 - 94        | 33 (77)   | 31 (88)   | 26 (95)   | 20 (79)   |
| GAMMA          | .16       | .18       | .05       | .08       |
| p value        | .04       | .03       | .71       | .44       |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across age groups for each condition.

## Table 3

### Percent Noninterview by Gender and Experimental Condition *

| | Condition | | | |
| Gender | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
|---|---|---|---|---|
| Males | 21 (183) | 22 (189) | 17 (169) | 12 (181) |
| Females | 28 (219) | 21 (215) | 19 (232) | 15 (219) |
| GAMMA | .19 | -.009 | .09 | .10 |
| p value | .10 | .94 | .47 | .47 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across gender groups for each condition.

## Table 4

### Percent Noninterview by Education and Experimental Condition *

| | Condition | | | |
|---|---|---|---|---|
| Education | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| < 8th grade | 49 (39) | 44 (39) | 38 (37) | 13 (24) |
| 9th to 11th grade | 31 (42) | 28 (51) | 22 (54) | 23 (53) |
| High school grad. | 23 (137) | 17 (138) | 23 (142) | 13 (141) |
| Some college | 17 (71) | 16 (61) | 10 (68) | 18 (62) |
| AA degree | 32 (22) | 19 (32) | 5 (20) | 8 (26) |
| BA/BS degree | 20 (60) | 23 (57) | 12 (51) | 9 (64) |
| Advanced degree | 10 (30) | 12 (25) | 3 (29) | 14 (29) |
| GAMMA | -.27 | -.20 | -.40 | -.17 |
| p value | < .001 | .01 | < .001 | .10 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across education groups for each condition.

## Table 5

### Percent Noninterview by Family Income and Experimental Condition *

| | Condition | | | |
|---|---|---|---|---|
| Income | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| < 4,999 | 39 (49) | 34 (65) | 35 (71) | 16 (55) |
| 5,000-19,999 | 18 (77) | 15 (60) | 23 (65) | 9 (58) |
| 20,000-29,999 | 25 (75) | 17 (66) | 12 (58) | 15 (74) |
| 30,000-44,999 | 25 (88) | 17 (94) | 12 (76) | 11 (70) |
| > 45,000 | 20 (87) | 19 (88) | 13 (87) | 8 (102) |
| GAMMA | -.12 | -.14 | -.35 | -.15 |
| p value | .15 | .13 | < .001 | .19 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across income groups for each condition.

## Table 6

### Percent Noninterview by Home Ownership and Experimental Condition *

|  | Condition | | | |
| --- | --- | --- | --- | --- |
| Own/Rent | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| Own | 22 (268) | 20 (263) | 16 (267) | 13 (272) |
| Rent | 30 (118) | 25 (129) | 22 (121) | 16 (122) |
| GAMMA | .21 | .15 | .18 | .11 |
| p value | .08 | .25 | .20 | .47 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across home ownership groups for each condition.

## Table 7

### Percent Noninterview by Employment Status and Experimental Condition *

|  | Condition | | | |
| --- | --- | --- | --- | --- |
| Employment | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| Working | 21 (262) | 19 (251) | 15 (267) | 12 (265) |
| Not Working | 32 (140) | 26 (153) | 23 (121) | 16 (135) |
| GAMMA | .29 | .21 | .27 | .17 |
| p value | .01 | .08 | .03 | .24 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across employment groups for each condition.

## Table 8

### Percent Noninterview by Self Reported Social Class and Experimental Condition *

| | Condition | | | |
|---|---|---|---|---|
| Social Class | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| Low | 27 (179) | 23 (169) | 19 (168) | 16 (160) |
| Middle | 22 (170) | 20 (183) | 17 (181) | 12 (197) |
| High | 18 (38) | 24 (42) | 21 (44) | 13 (39) |
| GAMMA | -.15 | -.02 | .007 | -.12 |
| p value | .17 | .87 | .98 | .34 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across social class groups for each condition.

## Table 9

### Percent Noninterview by Voted in Last Election and Experimental Condition *

| | Condition | | | |
|---|---|---|---|---|
| Did R Vote in Last Election? | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| Yes | 21 (206) | 18 (193) | 16 (210) | 11 (208) |
| No | 28 (196) | 25 (211) | 20 (191) | 16 (192) |
| GAMMA | .18 | .19 | .14 | .17 |
| p value | .12 | .11 | .27 | .23 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across voting groups for each condition.

## Table 10

### Percent Noninterview by Political Knowledge and Experimental Condition *

| Follow what's going on in government? | Condition | | | |
|---|---|---|---|---|
| | No Contact %(N) | Letter Only %(N) | Letter/ Dollar %(N) | Letter Pen %(N) |
| Most of the time | 13 (98) | 21 (123) | 12 (112) | 12 (129) |
| Some of the time | 25 (148) | 16 (126) | 19 (135) | 9 (127) |
| Only now and then | 27 (95) | 20 (92) | 18 (93) | 18 (77) |
| Hardly at all | 39 (59) | 34 (56) | 30 (56) | 23 (62) |
| GAMMA | .31 | .12 | .25 | .23 |
| p value | < .001 | .15 | < .01 | .02 |

* Gamma coefficients were obtained by comparing the number of noninterviews to completions across knowledge groups for each condition.

## Table 11

### Logistic Regression Analysis

| | Condition | | | | Merged |
|---|---|---|---|---|---|
| | No Contact | Letter Only | Letter/ Dollar | Letter Pen | All Cases |
| | B (s.e.) | B (s.e.) | B (s.e.) | B (s.e.) | B (s.e.) |
| Family Income | .1833 (.1259) | -.0281 (.1297) | -.1971 (.1339) | -.0738 (.1478) | -.0217 (.0647) |
| Respondent gender | .1901 (.2882) | -.3817 (.2989) | -.2599 (.3326) | -.2275 (.3570) | -.1379 (.1542) |
| Own vs. Rent | .7995** (.3195) | .5830 (.3295 | .2974 (.3290) | .1425 (.3952) | .4758** (.1656) |
| Social class | -.0432 (.0886) | .0636 (.0919) | .1637 (.0948) | -.0216 (.1129) | .0350 (.0466) |
| Education | -.1793 (.1079) | -.1034 (.1079) | -.3844** (.1346) | -.0329 (.1282) | -.1574** (.0575) |
| Age | .0203* (.0096) | .0195 (.0102) | -.0012 (.0093) | -.0073 (.0124) | .0115* (.0050) |
| Employment | .2532 (.3355) | -.1387 (.3722) | .1757 (.3739) | .3193 (.4179) | .1531 (.1831) |
| Voted last elect. | -.0001 (.0760) | .0296 (.0801) | .0668 (.0832) | .0242 (.0985) | .0302 (.0408) |
| Polit. Knowledge | .3594* (.1584) | .2067 (.1672) | .0806 (.1645) | .2988 (.1780) | .2392** (.0810) |
| Incentive: | | | | | |
| Letter | | | | | .0861 (.1232) |
| Letter/Dollar | | | | | -.0260 (.1267) |
| Letter/Pen | | | | | -.4569** (.1404) |
| N | (350) | (347) | (337) | (346) | (1380) |

*    p < .05
**   p < .01