ADVANCES IN ACCOUNTING BEHAVIORAL RESEARCH

Edited by Khondkar E. Karim

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VOLUME 23

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EDITED BY

KHONDKAR E. KARIM
Professor of Accounting
The Robert J. Manning School of Business
University of Massachusetts Lowell, USA

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LIST OF CONTRIBUTORS

Emad Awadallah	Qatar University, Qatar
Charles D. Bailey	James Madison University, USA
Darlene Bay	Brock University, Canada
Philip Beaulieu	University of Calgary, Canada
Bryan Cataldi	Butler University, USA
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Barbara S. White	University of West Florida, USA
David Yeboah	Brock University, Canada

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RECRUITING METHOD AND ITS IMPACT ON PARTICIPANT BEHAVIOR

Darlene Bay, Gail Lynn Cook and David Yeboah

ABSTRACT

Purpose – *Recruiting sufficient participants who adequately represent the population of interest is an ongoing issue for accounting experimental researchers. This study investigates the impact of recruitment method on the number of participants, effort on the experimental task, and sample bias with respect to three individual difference variables (locus of control, social desirability response bias, and prosocial behavior). We employ five different recruitment methods: three forms of monetary compensation and two levels of an appeal for help with a research project.*

Methodology – *We recruit students in five sections of the same course taught by the same instructor (not one of the researchers), manipulating recruitment method across sections. Immediately following recruitment, participants completed a simple experimental task and scales for the individual difference variables.*

Findings – *We find that the method of recruiting resulted in different response rates, with appeal from a fellow student yielding the highest response rate, and appeal from a professor yielding the lowest response rate. Effort was greatest for the appeal from the professor and least for the draw. While the five subsamples that resulted from the five recruiting methods were not different with respect to the individual difference variables, the relationship of those variables to effort did vary.*

Research Implications – *Our findings suggest that researchers must carefully consider recruitment method not only in terms of how many participants can be attracted, but also in terms of the potential impact of the manner in which recruitment was conducted on the attitudes and behaviors of the participants during the experiment.*

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INTRODUCTION

Concerns about how best to recruit sufficient participants for experimental investigations have been expressed by researchers in such fields as psychology (Sharp, Pelletier, & Lévesque, 2006), economics (Eckel & Grossman, 2000), and accounting (Kinney, 1986). A large enough sample size is necessary in order to ensure adequate power for statistical tests as well as to prevent possible sample biases that can result from small, homogenous samples that do not adequately represent the population of interest.

However, researchers also recognize that different recruiting methods may result in different sample characteristics, potentially producing results that are not generalizable. Unfortunately, the ideal means of recruitment is not agreed upon across disciplines. For example, Eckel and Grossman (2000) characterize student participants that are recruited to perform an experimental task in class as "pseudo volunteers" and express a preference for "actual" volunteers, which they believe are those participants that come to an experimental session outside the classroom setting and are paid a monetary incentive for their participation. On the other hand, Sharp et al. (2006) contrast participants that receive course credit (a form of payment) to "true" volunteers that receive no reward for their participation. Regardless of how the participants are labeled, both studies find that different recruiting methods produce different results in terms of the analysis of interest.

This study investigates how recruiting methods impact participation rates and sample characteristics for an accounting study. We have no priors as to the "best" method. We take the position that no ideal form of volunteer is important or achievable. All participants must experience some sort of incentive, whether it is monetary payment, course credit, or the satisfaction of complying with a social norm that encourages participation. The important question relates to which of the frequently used methods of recruiting participants results in the most participation with the least sample bias.

In order to begin to answer this question, we use the simplest setting possible. Because some accounting experiments and all accounting pedagogy studies use student subjects, we investigate recruitment of students. Our variable of interest is effort expended, since this outcome is important to many accounting studies. We design a very simple experimental task, which can be completed in a short period of time. We recruit in classes and the task is completed during class time. There are no scheduling issues, transportation problems, or sacrifice of personal time. In five different sections of the same course, we use five different recruiting strategies: two levels of monetary payment, two types of requests for help, and one draw. In addition, we gather information about three individual difference variables in order to evaluate sample bias.

We find that, even in this very sparse setting, participation rates vary across recruiting methods. More importantly, effort on the experimental task varied

significantly across methods. There was no initial evidence of sample bias – average scores on the individual difference variables were not different across recruiting methods. However, the relationship of these variables to effort did vary significantly. We conclude that using a draw as an incentive is the least effective method. An attempt by a professor to recruit by asking students to help in a research project is most risky, since it results in a lower participation rate, but more effort on the task.

The contribution of this study to the accounting behavioral research literature is methodological. Accounting researchers who use student subjects have a variety of recruitment methods at their disposal. Information about what method is most effective at encouraging more participation and thus a larger sample size could be invaluable. In addition, sample bias is always a concern. Even the seemingly simple choice of recruiting "pure" volunteers or offering payment for participation may impact the types of students who agree to serve as experimental subjects, thus potentially biasing the results of the experiment. This study investigates how accounting students respond to various recruitment methods.

In addition to providing information about the number and type of potential subjects that are recruited, this study contributes to accounting behavioral research by providing information about how recruiting method, rather than biasing sample characteristics, may bias behavior of participants. Depending on the variables of interest to any particular study, different recruiting methods may bring to the fore different behaviors. While in the current study we examine the impact of recruiting method on effort, one can imagine other scenarios. For example, recruiting unpaid volunteers and emphasizing that they are thereby contributing to society by helping to increase knowledge may suggest an ethics frame that could cause participants to behave more ethically than they otherwise might. Accounting researchers will find the results of this study useful in thinking about how to avoid inadvertently encouraging certain types of behavior based solely on the recruitment method.

The remainder of this chapter is organized as follows. In the next section, we present background information and our hypotheses. After that, we describe our methodology and present our results. Finally, we provide a discussion of our findings.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Incentives to Participate

One of the more common methods of increasing response rates to invitations to participate in research studies is to offer a monetary incentive. Not only have monetary incentives been found to increase response rates relative to no incentive, but increases in the size of the payment have been shown to lead to a corresponding increase in response rates (eg., Church, 1993; James & Bolstein, 1992; Singer, Van Hoewyk, Gebler, Raghunathan, & McGonagle, 1999). The effect has been found in meta-analyses for telephone surveys and face-to-face interviews (Singer et al., 1999) as well as mail surveys (Church, 1993; James & Bolstein, 1992). Further, it has been shown that monetary incentives are more effective than nonmonetary incentives of equal value (for example, pens, key rings, or coupons for coffee) in increasing the

response rate (Church, 1993). Even increases of an amount that is relatively small in absolute value are effective in increasing the response rate. For example, James and Bolstein (1990) show that a payment of $0.50 increases the response rate compared to no incentive and increasing the incentive to $2.00 results in a further increase. While none of these studies involve accounting students in a classroom setting, we believe that such consistent results over a variety of settings and populations of interest may generalize to our population and our setting. Thus, we hypothesize:

H1. The participation rate will increase when the payment amount increases.

The format of monetary incentives may be a flat payment to each participant or the opportunity to be entered into a draw for a larger amount. Draws introduce an element of risk to the incentive. Rational individuals are usually risk averse with respect to monetary outcomes. In an experiment involving undergraduate students, Tversky and Kahneman (1986) found that the majority preferred a sure monetary gain to an uncertain chance, even when the expected value of the draw was equal to the amount of the certain payment. Accountants have been shown to be even more risk averse than nonaccountants (Helliar, Lonie, Power, & Sinclair, 2002). It seems likely that accounting students may be similarly risk averse. Thus, the risk inherent in a lottery may prevent such an incentive from being effective in our setting.

There is evidence that cash incentives for research participation are more effective than lottery incentives. Leung, Ho, Chan, Johnston, and Wong (2002) in a mail survey of Hong Kong physicians found that lottery incentives elicited a smaller response rate than flat payment monetary incentives. In this study, response rates of potential subjects to cash payments of Hong Kong Dollars (HKD) $10, $20, and $40 was greater than response rate to draws for Hong Kong Dollars (HKD) $1,000, $2,000, and $4,000. It should be noted that the expected value of the cash payment was greater than the expected value of the draw. Based on the general results for certain payment versus uncertain gains and this evidence from research participation we hypothesize:

H2. The participation rate will be greater when flat payments are offered compared to entry into a draw, even when the expected values are the same.

While nonmonetary incentives are often simply small gifts, there are other types of nonmonetary incentives. One potentially effective nonmonetary incentive might be an attempt to influence the decision to participate by activating the desire to help. The response rate to recruitment using an attempt to develop a social contract was examined by Krawczyk (2011) in an experiment using students from the University of Warsaw. The author found that the response rate of students recruited to help a faculty member with a research project was smaller compared to potential subjects' response rate when offered monetary incentives. This result suggests that economic motivation is more important to most potential participants than other reasons to participate. Hence, we expect students who are offered monetary incentives will participate at a higher rate than students who are motivated to participate by requests for help from a researcher.

The impact of a social contract may vary depending on the identity of the other party to the contract. The difference in a social contract between peers and between an individual and an authority figure has been examined in at least one study. Keller, Gummerum, Wang, and Lindsey (2004) investigated the violations

of a social contract between peers and between a child and an authority figure (parent). They showed that the children viewed violation of a social contract between a child and his peer as more serious than that between a child and parent. They attributed this finding to the children's tendency to identify more with the peer than the parent. Thus, we expect the students will be more willing to help a student than a professor because the students are better able to identify with a fellow student, causing them to respond to the request for help.

H3. The participation rate will be less when the task is presented as a social appeal compared to when monetary payment is offered.

H4. The participation rate will be greater in response to a student appeal compared to an appeal from a professor.

Impact of Incentive on Effort

In accounting studies, monetary incentives may be of two types: incentives offered to encourage participation and incentives for performance during the experimental task. The latter type of incentive is not a recruitment tool, but an integral part of the study, intended to investigate the impact of incentive payments on other variables of interest. Thus, some accounting studies offer both a "show-up" payment and a further payment based on performance (see, for example, Arnold, Ponick, & Schenk-Mathes, 2008; Libby & Thorne, 2009). The current study investigates monetary incentives offered to all who participate in the research study regardless of performance and thus applies only to the "show-up" portion of the incentives in the above studies.

There is some evidence that the level of payment offered to research participants increases the effort, even when the payment is not contingent on performance (Ariely, 2010). In addition, there is evidence that upfront payment of incentives to participate increases the quality of the responses (Singer et al., 1999) as well as encouraging responses that are favorable to the sponsors of the research (James & Bolstein, 1990). We found no studies that examined the effect of using a draw as incentive on quantity and quality of responses. Thus, we hypothesize:

H5. Participants will exert more effort when the monetary incentive to participate is higher.

If a larger payment as an incentive impacts performance, establishment of a social contract through an appeal for help may also influence performance. Ariely (2010) investigated this effect and found that individuals put more effort into performing a task in response to a perceived social contract than when they were paid a small amount of money and at least as much effort as when paid a larger amount of money. Ariely attributed this finding to the principles of social versus market norms. People who are paid a small amount for performing any task switch to the ethos of market norms and find the offer lacking relative to their effort. They therefore reduce their effort. But people who are not paid anything interpret performing the task as a contribution of help to society or to a fellow human being and put more effort into the activity. Thus, we hypothesize:

H6. Participants asked to help will exert more effort than when they receive a low dollar amount as an incentive.

As noted above, the social contract between two peers may be more salient than between an individual and a superior (Keller et al., 2004). Thus, in addition to volunteering to participate in higher numbers, students asked for help by a fellow student may also increase the quantity and quality of their participation:

H7. Participants asked to help a fellow student will exert more effort than when asked to help by a professor.

Sample Bias

Recruiting a sufficient number of participants is important to the success of a research study. Use of recruiting methods that are more effective in achieving this goal would seem to be a wise course. However, the different recruiting methods may appeal in different ways to individuals with different characteristics or may establish a frame for the activity that encourages more or less effort. Thus, the sample obtained may not be truly representative of the population. Importantly, any potential biases that exist in the sample may impact the relationships between the variables of interest in the research study. We investigate three individual difference variables that might be important to both recruiting efforts and subsequent performance of experimental tasks.

Locus of Control

Locus of control identifies beliefs about the extent of personal control that the individual has over his or her surroundings (Rotter, 1966). Locus of control is termed either internal or external. Individuals who believe they are responsible for control over their surroundings and behavior have internal locus of control, while individuals with external locus of control believe that other factors such as luck or the behavior of colleagues determine the events that influence their lives. Locus of control has been found to be related to some demographic factors. In a study of American workers, Vecchio (1981) reports that African Americans tend to have a more external locus of control than Caucasian Americans. Another factor that can be related to an individual's locus of control is gender. Sherman, Higgs, and Williams (1997), in a review of locus of control studies based mostly on studies of university students, report that females tend to have a more external locus of control than males.

Locus of control has been shown to impact the relationship of incentives and performance. In a review, Spector (1982) reports that internals believe more strongly that effort will lead to good performance and good performance to rewards. Thus, they exert greater effort in situations where rewards are tied to performance. Externals, on the other hand, believe performance is influenced by other factors such as luck and therefore do not exert greater effort in situations where rewards are tied to performance. This result has also been found among students participating in research studies. Kren (1992), in an experiment to examine the role of locus of control in moderating the performance effects of incentives, found that undergraduate business students with an internal locus of control allocated more effort and performed better in a task when they were offered monetary incentives, but the incentives had no effect on the effort of externals.

Locus of control has also been investigated among accounting professionals. For example, Chen and Silverthorne (2008) conducted a survey of professional accountants in Taiwan and report that an internal locus of control is associated with lower perceptions of job stress, higher reported levels of job satisfaction, and higher self-assessed job performance. Tsui and Gul (1996) report that auditors with an external locus of control are more likely to allow clients to pressure them when a conflict arises during an audit. As a final example, Reed, Kratchman, and Strawser (1994) find a gender difference in the effect of locus control on perceptions of role overload among accountants. Female externals were more likely than their female counterparts with an internal locus of control to feel pressured at work, and male internals were more likely than their male counterparts with an external locus of control to feel pressured at work.

Thus, for any accounting study that incentivizes performance of the experimental task, a sample that is higher or lower than the population of interest on locus of control may produce results that are not generalizable. Recruiting methods that inadvertently result in a sample that is biased with respect to locus of control will be detrimental to the integrity of the experiment. However, we found no prior literature on the relationship of various recruiting methods and locus of control. While incentives may impact those with an internal locus of control differently from those with an external locus of control, performance in our study is not directly related to the amount of payment, making the results of these studies difficult to apply in our setting. For these reasons, we do not propose a hypothesis, but instead a research question:

RQ1. What is the relationship of locus of control to the participation rate and the effort of the participants?

Prosocial Behavior

Prosocial behavior can be explained as any action that benefits other people or society as a whole (Twenge, Baumeister, DeWall, Ciarocco, & Barteis, 2007). It is a voluntary action intended to help or benefit another individual or group of individuals and includes behavior such as helping, sharing, donating, cooperating, and volunteering (Knickerbocker, 2003). Some types of prosocial behavior do not benefit the helper and may even be costly (Twenge et al., 2007). One of the main motivations of prosocial behavior is altruism (Rushton, 1982). However, some researchers draw a distinction between altruism and prosocial behavior (Batson & Powell, 2003), relating altruism to increasing the welfare of another individual and prosocial behavior to working to benefit society as a whole. It is clear that not all researchers have drawn this distinction (see, for example, McNeely & Meglino, 1994) and many use the two terms interchangeably. For this study, we accept that the two constructs are strongly related and perhaps overlapping.

Some researchers believe that prosocial behavior may be a response to having received a benefit. For example, employees engage in prosocial behavior intended to benefit their firm in response to perceptions of fair employment practices (Lee, Nam, Park, & Lee, 2006; McNeely & Meglino, 1994). Those who score high on measures of prosocial behavior have been found to be more likely than others to help under some conditions (Staub, 1974). Prosocial behavior has been shown to

be related to a number of other individual difference variables such as agreeableness and conscientiousness from the Big Five Personality Inventory (Pursell, Laursen, Ruben, Booth-LaForce, & Rose-Krasnor, 2008), level of moral development (Schwartz, Feldman, Brown, & Heingartner, 1969), and locus of control (Spector, 1982).

There has been little research about prosocial behavior in the accounting literature. However, other related constructs have been extensively researched. For example, level of moral development has been shown to relate positively to organizational citizenship (one of the dimensions of which is helping behavior) among public accountants (Ryan, 2001);[i] moral intensity has been shown to predict whistleblowing among public accountants (Taylor & Curtis, 2010); and preferences for honesty have been shown to impact participants' responses to a capital budgeting contract intended to elicit honest reporting of private information (Evans, Hannan, Krishnan, & Moser, 2001). Because ethics is such an important topic in accounting and prosocial behavior can be expected to be related to many ethics-related constructs, any recruiting technique that results in a sample with a larger or smaller proportion of those who tend to engage in prosocial behavior may seriously damage the generalizability of the study.

There is some evidence that prosocial behavior may impact participation in research studies. In medical research, a number of studies report that altruism is an important motivation for voluntary participation in research projects (e.g., Jansen, 2009; McCann, Campbell, & Entwistle, 2010; Sengupta et al., 2000). While these studies used the term altruism, it is clear that participation in a medical research study might be motivated by the desire to help find a cure which benefits society as a whole and thus qualifies as prosocial behavior. However, we found no studies that investigated how incentives might interact with prosocial behavior in encouraging participation and effort in research studies. Thus, we again propose a research question:

RQ2. What is the relationship of prosocial behavior to the participation rate and the effort of the participants?

Social Desirability Response Bias

Zerbe and Paulhus (1987, p. 250) defined social desirability response bias as "the tendency of individuals to present themselves favourably with respect to current social norms and standards." In the research context, this results in a tendency of participants to choose responses they believe are more socially acceptable or that meet the expectations of the researcher rather than responses that reflect their true feelings or thoughts (Grimm, 2010). One dimension of this bias has also been characterized as a form of self-deception and has been found to operate even in studies where anonymity is provided (Randall & Fernandes, 1991). This usually results in overreporting of responses that are socially desirable and underreporting of responses that are seen to be socially undesirable. One generally accepted scale for measuring social desirability response bias was developed by Crowne and Marlowe (1960).

Social desirability response bias has been consistently found to be a concern in such disparate fields as self-reported data in health-related research