



Do response rates matter in entrepreneurship research?



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ABSTRACT

For many scientific disciplines that rely on surveys and voluntary participation (e.g., organizational behavior, psychology), nonresponse bias (NRB) has been shown to bias estimates, create range restriction, and lead to both Type I and Type II errors. The present research endeavors to fill a methodological gap in the entrepreneurship literature by presenting the following findings: (a) response rates in entrepreneurship research (39%) are higher than firm-level research in management, but lower than individual-level management research, (b) there is virtually no evidence that response rate has any meaningful or consistent influence on relationships in entrepreneurship, and (c) there is little evidence of selective reporting when response rates are low. These promising findings should give entrepreneurship researchers cautious optimism that at least in the aggregate, NRB has limited impact.

1. Introduction

Empirical research in entrepreneurship is becoming more rigorous, but may still lag our sister fields in some areas, e.g. human resource management, strategic management (Connelly et al., 2010; Crook et al., 2010; Ireland et al., 2005; Short et al., 2010). At least, that is the perception. Whether this is perception or truth is largely beside the point, as we should be continually working to enhance the rigor of our research and build legitimacy for our field (Ireland et al., 2005; Rynes, 2002). One key to legitimacy development is empirical clarity. In particular, a discipline can gain legitimacy by adhering to methodological norms and conventions in place within more well-established fields (Cole, 1983). To this end, this study examines one fundamental characteristic of entrepreneurship research—response rates from surveys.

Survey response rates are a persistent concern in all disciplines that rely on survey research, including entrepreneurship, and can be defined as the number of completed surveys with responding units divided by the number of eligible responding units in the sample (Wiseman and Billington, 1984). While widely discussed as a methodological issue in the broader area of management and related disciplines such as marketing, medicine, and political science (Baruch, 1999; Baruch and Holtom, 2008; Cycyota and Harrison, 2006; Dillman, 1991; Roth and BeVier, 1998), response rate effects have not been as rigorously studied in entrepreneurship.

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This is disconcerting, since it is possible that survey samples drawn from entrepreneurs will have lower response rates than surveys of other individuals (Bartholomew and Smith, 2006; Dennis, 2003).

How empirically problematic is it when response rates are lower than suggested thresholds? The purpose of this research is to seek a partial answer to this question by examining the moderating influence of response rate on commonly studied relations in the entrepreneurship literature. To assess the impact of NRB in entrepreneurship research, we test whether response rate moderates the relation between 27 commonly studied variables in entrepreneurship research proposed to relate to venture creation and firm performance including personality, entrepreneurial status, business planning, and effectuation.

2. Literature review

2.1. Response rates and non-response bias

Low response rates hamper any research project by decreasing sample size, limiting analytical techniques, challenging perceived legitimacy, and reducing generalizability (Luong and Rogelberg, 1998; Rogelberg and Stanton, 2007). Though far from perfectly correlated (Groves, 2006; Micklewright et al., 2012), NRB can be exacerbated by low response rates (Groves and Peytcheva, 2008). The resulting effects of NRB extend beyond reduced power or increased reviewer skepticism. Point estimates such as standardized differences, correlations, regression slopes, and model fit indices are influenced by NRB in unpredictable directions (Berk, 1983), although the most common result is an attenuation of effect sizes.

2.2. Non-response bias in entrepreneurship research

Surveys are the dominant form of data collection among entrepreneurship researchers. Bartholomew and Smith (2006) found that 47% of the empirical studies published in *Entrepreneurship Theory and Practice* and *Journal of Small Business Management* used mail surveys. This can be contrasted with 7% in *Academy of Management Journal*, *Administrative Science Quarterly*, and *Journal of Management*. Dennis (2003), looking at peer-reviewed entrepreneurship journals, found that approximately 30% of all articles used surveys. Further analyzing these studies, Bartholomew and Smith (2006) found a mean 27% response rate, while Dennis (2003) reports a mean response rate of 30%. Providing support to these findings, Aldrich and Baker (1997) found that the majority of entrepreneurship articles using surveys report a response rate of less than 50% and a third have response rates under 25%. These numbers can be contrasted with Baruch and Holtom's (2008) findings that across the entirety of the field of management the average response rate was 48%. When divided along the micro-macro divide, individual-level research reported a mean response rate of 53%, and firm-level research reported on average a response rate of 35%.

This fact is not surprising given that the population under consideration is generally time and cash starved and may simply lack the motivation to complete a survey, particularly in rapidly growing and larger firms (Newby et al., 2003; Wiklund and Shepherd, 2011). An additional reason given for the low rate is that top managers are less likely than other employees to complete surveys (Baruch and Holtom, 2008), and in small firms the CEO is generally listed as the contact person. It has also been noted that entrepreneurs are secretive (Hsu, 2004), and distrust attempts to acquire information regardless of anonymity guarantees (Sapienza et al., 1988). Additionally, response rates have fallen over time suggesting that newer fields such as entrepreneurship may be subject to lower historical response rates (Curtin et al., 2005; Cycyota and Harrison, 2006). As a discipline with low paradigm development fighting to enhance rigor and legitimacy, increased understanding of our primary subjects and their survey response characteristics is highly desirable (Short et al., 2010).

Regardless of the cause, low response rates in entrepreneurship research may be leading to a systematic underestimation of effect sizes, statistical significance, and directionality in key relationships. The relative youth of the field only serves to exacerbate the problem, because there has simply been less time to build a foundation of primary studies, conduct meta-analyses, and validate results (Gartner, 2001; Bruyat and Julien, 2001). However, without an empirical test, we cannot know whether these relations exist or are simply perception-based. This works seeks to provide such a test.

Accordingly our omnibus contention is that NRB is likely problematic in entrepreneurship research. To assess the degree and directionality of the problem, we look at 27 different relationships to venture creation and firm performance published in existing meta-analyses and examine the effect of response rate on the magnitude and direction of NRB.

3. Materials and methods

3.1. Selection of meta-analyses

In order to locate existing meta-analyses of entrepreneurship topics, we used various combinations of the following keywords: new venture, entrepreneur, meta-analysis, and systematic review to identify all meta-analyses related to entrepreneurship published in the past 20 years. We searched ABI/Inform and Google Scholar as well as recent proceedings of the Academy of Management and Southern Management Association. Our search ended January 1, 2015. In all, we identified 65 potential meta-analyses for inclusion.

3.2. Inclusion criteria and study coding

In order for a meta-analysis to be included it first must address a topic directly related to entrepreneurship or be based solely on

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