

**The Use of Online Panel Data in Management Research:  
A Review and Recommendations**

Christopher O. L. H. Porter  
Indiana University  
Kelley School of Business-Indianapolis  
801 W. Michigan Street, BS 4130  
Indianapolis, IN 46202-5151  
Phone: 317-274-2752  
Fax: 317-274-3312  
Email: colhp@iu.edu

Ryan Outlaw  
Indiana University  
Kelley School of Business-Indianapolis  
801 W. Michigan Street, BS 4142  
Indianapolis, IN 46202-5151  
Phone: 317-274-2752  
Fax: 317-274-3312  
Email: croutlaw@iu.edu

Jake P. Gale  
Indiana University  
Kelley School of Business-Indianapolis  
801 W. Michigan Street, BS 4033  
Indianapolis, IN 46202-5151  
Phone: 317-274-2752  
Fax: 317-274-3312  
Email: jakgale@iu.edu

Thomas S. Cho  
Indiana University Purdue University Indianapolis  
Department of Psychology  
402 N. Blackford Street  
Indianapolis, IN 46202  
Phone: 317-274-6949  
Email: tscho@iu.edu

**Acknowledgements:** We thank Brittney Amber and Arielle N. Lewis for their help with this project.

**Corresponding author:** Christopher O. L. H. Porter

**Email:** [colhp@iu.edu](mailto:colhp@iu.edu)

**ABSTRACT**

Management scholars have long depended on convenience samples to conduct research involving human participants. However, the past decade has seen an emergence of a new convenience sample—online panels and online panel participants. The data these participants provide—online panel data (OPD)—has been embraced by many management scholars owing to the numerous benefits it provides over “traditional” convenience samples. Despite those advantages, OPD has not been warmly received by all. Currently, there is a divide in the field over the appropriateness of OPD in management scholarship. Our review takes aim at the divide, with the goal of providing a common understanding of OPD and its utility and providing recommendations regarding when and how to use OPD and how and where to publish it. To accomplish these goals, we inventoried and reviewed OPD use across 13 management journals spanning 2006–2017. Our search resulted in 804 OPD-based studies across 439 articles. Notably, our search also identified 26 online panel platforms (“brokers”) used to connect researchers with online panel participants. Importantly, we offer specific guidance to authors, reviewers, and editors, having implications for both micro and macro management scholars.

**Keywords:** online panel data; research methods; sampling; convenience sample

The availability and use of human research participants is vital to management research. In fact, 56% of the empirical articles (not including meta-analyses) published in the *Journal of Management* in 2017 reported data collected directly from human research participants. Researchers who depend on human participants are familiar with the challenges presented by “traditional” convenience samples. Some of these challenges center on issues of validity. For example, statistical conclusion validity, or the degree to which the relationship between variables is accurately represented, is threatened by small sample sizes and range restriction—both of which are often limitations when research is conducted within a single organization (cf., Cohen, 1992; Shadish, Cook, & Campbell, 2002).

Traditional sampling techniques can also present challenges of a more practical nature. Researchers are often required to exert considerable effort before organizational gatekeepers agree to participate (Clark, 2011; Cunliffe & Alcadipani, 2016). As Tracy (2013: 12) notes, this may involve “countless phone calls, follow-up emails, and ‘courtship rituals’ required in order to gain access.” Even when researchers are granted access, many organizations are reluctant to allow them to collect data on “sensitive” topics such as racial bias, gender inequality, theft, workplace violence, retaliation, incivility, and abusive supervision.

A relatively recent sampling innovation—online panels—appears to have solved a number of these problems by opening the door to a new convenience sample. An *online panel* (OP) is an electronic database of registrants who have indicated a willingness to participate in future web-based research studies (Callegaro, Baker, Bethlehem, Göritz, Krosnick, & Lavrakas, 2014). Two related terms we will refer to are *online panel data* (OPD)—the data derived from an OP—and *online panel platform* (OPP)—the host that provides access to the OP.

The earliest use of an OP in academic journals appears to be the late 1990s (e.g., Li, Kuo, & Russell, 1999 as noted by Göritz, 2007). Since then, the number of OPPs and the use of OPD has steadily increased—a trend reflecting our belief that OPD is one of the most significant sampling developments in modern science. The field of management has not been immune to these trends. As the data we collected for our review indicated, OPD appeared in 6.6%—on average—of the empirical articles in management in just over the last decade. By comparison, OPD appeared in 14.3% of the empirical articles in 2017 (the last year included in our review). But, what exactly is OPD? What can we learn from how management scholars have used OPD? What issues, if any, remain unresolved about how to best use OPD? Importantly, what questions should management scholars, including both researchers and evaluators, consider when deciding the degree to which OPD is appropriate? Our review addresses each of these issues. But before delving into them, we first introduce OPD and explain its rising popularity.

### A BRIEF INTRODUCTION TO OPD

While our review includes 26 unique OPPs, we begin with, for illustrative purposes, a well-known example—Amazon’s Mechanical Turk (MTurk). Note that a detailed guide on how to set up and administer a survey on MTurk or similar OPPs is beyond the scope of this review (we refer interested readers to Mason & Suri, 2012, as well as Chandler, Mueller, & Paolacci, 2014). MTurk, which launched in 2005, was initially designed to provide “requestors” access to “workers” who were willing to complete simple microtasks (Aguinis & Lawal, 2012) too complicated for computers to perform. Over the last decade or so, those microtasks grew to include participation in scientific surveys and experiments as more academic researchers took on the role of requestors. Today, OPPs like MTurk, Qualtrics, and StudyResponse provide

researchers access to participants from a global online marketplace and are gaining popularity because of several advantages OPs offer over traditional convenience samples.

One advantage is that OPs provide researchers with a convenient way to reach a potentially unlimited number of participants while keeping costs to a minimum (Buhrmester, Kwang, & Gosling, 2011). These qualities have made OPs ideal for scale development or pilot studies where multiple iterations may be required. Additionally, OPs give researchers access to sample participants from across the globe, facilitating increasingly representative samples (Gleibs, 2017; Goodman & Paolacci, 2017). Conversely, scholars interested in studying specific yet hard-to-reach segments of a population—for example, members of the LGBTQ+ community—can also do so using OPs and relatively little effort (Smith, Sabat, Martinez, Waver, & Xu, 2015). The increased anonymity OPs offer also makes them ideal for researchers to collect data on topics participants might be reluctant to report or admit experiencing (Smith et al., 2015). Some OPs facilitate intensive research designs such as those that require temporal separation (e.g., multi-wave field studies or experience sampling methodology) with acceptable retention rates (Chandler et al., 2014). Finally, many Institutional Review Boards consider OPD-based studies “exempt,” potentially saving researchers valuable time (Paolacci, Chandler, & Ipeirotis, 2010).

Of course, OPs are not without controversy. There are three issues that have received a great deal of attention and deserve mention here given their relevance to management research. First is the issue of non-naïve participants or “professional survey-takers”—participants who frequently engage in surveys and experiments. The concern is that non-naïve participants may systematically respond to surveys and experiments differently than those who rarely take part in research. Evidence indicates that both crosstalk between participants and respondents

intentionally attempting to participate more than once in the same study are virtually nonexistent (Chandler et al., 2014). Participant experience may be an issue in terms of attenuating effects sizes (Chandler, Paolacci, Peer, Mueller, & Ratliff, 2015), but this appears to primarily impact researchers employing experiments with common, widely-known paradigms (Chandler et al., 2014). Experienced participants are likely less of a problem for researchers conducting novel experiments or survey research; however, more research is needed on this (Cheung, Burns, Sinclair, & Sliter, 2017).

Second, the representativeness of OP participants has been called into question. Yet, there is overwhelming evidence that OPs are more representative of typical working adults than traditional student samples (Crone & Williams, 2017; Goodman & Paolacci, 2017; Peer, Brandimarte, Samat, & Acquisti, 2017). Moreover, there is evidence that OPD is similar to data collected using traditional samples. In a recent meta-analysis, Walter, Seibert, Goering, and O'Boyle (in press) compared effect sizes of organizational variables collected using OPD to "conventionally sourced" data. The authors concluded that these two approaches yield substantively similar effect sizes, which in turn provides greater confidence in both approaches—even if the representativeness of OP participants differs to some degree from the target population (Walter et al., in press).

Third, fears over subpar data quality due to inattentiveness or lack of effort have been expressed (e.g., Chandler et al., 2014), but those fears have largely been refuted. There is evidence that the attention levels of, and psychometric data from, OP participants meet or exceed those from traditional data sources (e.g., Behrend, Sharek, Meade, & Wiebe, 2011; Buhrmester et al., 2011; Crone & Williams, 2017; Goodman & Paolacci, 2017; Hauser & Schwarz, 2016; Paolacci et al., 2010; Ramsey, Thompson, McKenzie, & Rosenbaum, 2016). Additional evidence

that OPD is capable of yielding high quality data comes from Walter et al.’s (in press) meta-analysis based on more than 32,121 OP participants across 90 independent samples. Results from their reliability generalization analysis indicated that OP participants provided data that was comparable to conventionally sourced data in terms of psychometric soundness.

**OPD AND MANAGEMENT**

Despite the aforementioned evidence generally supporting the validity of OPD, there remains a deep divide among management scholars over its appropriateness. Evidence of this disagreement can be seen in journals that refuse to publish OPD-based research (Landers & Behrend, 2015) and editorial board members and reviewers who automatically reject such work (for an example, see Walter et al., in press). This divide is problematic for several reasons, perhaps the most serious of which is the confusion and uncertainty it causes, impeding the ability of our field to mature. For example, the attitudes of editors towards OPD impacts the degree to which a journal is seen as a viable outlet for OPD-based research. And, for their part, an individual reviewer’s view on work using OPD may come down to the luck of the draw.

This problematic divide may hit authors the hardest. After all, it is authors who must wrestle with the “is OPD appropriate?” question throughout the publication process, starting with research design. Authors may question whether editors and reviewers are likely to give a longer leash to OPD use for certain topics or hard-to-reach subpopulations. For example, “Is it acceptable to use OPD to study sexual orientation and potential stigma at work?” Similarly, authors may wonder if OPD is tolerable for certain types of research. For instance, “Is it okay to use OPD for substantive hypothesis testing or I am better off using it only for scale validation?” Related, authors can be left to guess about potential outlets for work containing OPD. Imagine

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

8

how many authors have asked the question, “Do I even have a chance of publishing this research in a particular journal if I use OPD?”

Management scholars deserve answers to these elusive questions and our review represents an important step in providing answers. Specifically, our review allows us to offer pointed guidance regarding *when* and *how* OPD should be used by management researchers. That guidance identifies missed opportunities and critical considerations based on a close look at how OPD was employed during approximately its first decade of use by management scholars. Because our review suggests that OPD is an innovation that is likely here to stay, we also provide a comprehensive set of best practices for management scholars as they continue to use OPD in the future. While we are not the first to suggest best practices as it relates to the use of OPD, we uniquely identify areas of (dis)agreement across scholars’ recommendations for executing OPD studies. The result highlights the complexities researchers and evaluators must consider as they conduct and evaluate OPD research and should serve as an invaluable resource for making informed decisions about this research.

**METHOD**

The first step in conducting our review was identifying journals for inclusion. We began with journal lists from the University of Texas at Dallas Top 100 Business School Research Rankings (2018) and the Texas A&M/University of Georgia Productivity Rankings (2018). To be comprehensive and given our interest in examining OPD use across a broad range of management topics, we included not only those that covered more micro areas (e.g., *Journal of Applied Psychology*, *Organizational Behavior and Human Decision Processes*), but also those that typically cover mostly macro areas (e.g., *Strategic Management Journal*).



The next step in building our dataset was excluding journals that published only theoretical or conceptual articles (i.e., *Academy of Management Review*). Finally, we included several journals that, though not on the aforementioned journal lists, are widely known and sought-after targets for management scholars. This provided the additional benefit of broadening the quality and scope of the work included in our review.<sup>1</sup> These additions largely included specialty journals (e.g., *Strategic Entrepreneurship Journal* and *Leadership Quarterly*). The result was the following thirteen journals: *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Journal of International Business Studies*, *Journal of Management*, *Journal of Organizational Behavior*, *Leadership Quarterly*, *Management Science*, *Organizational Behavior and Human Decision Processes*, *Organization Science*, *Personnel Psychology*, *Strategic Entrepreneurship Journal*, *Strategic Management Journal*.

To ensure we captured all the published articles that used OPD in these journals, we conducted a manual search beginning with 2005—the year MTurk was launched. Although a query-based search (e.g., conducting an electronic, online search for articles that mention the word “MTurk” or “Qualtrics”) would have been faster, conducting a manual search was important for several reasons. First, early in our literature search, we saw evidence that authors were sometimes less-than-transparent about the source of their data. For example, some references to OPD and OPPs were embedded in footnotes and appendices rather than explicitly identified in Method sections. Second, it was not possible to identify a comprehensive list of the various OPPs to include in a query-based search. The only way we could be confident that we identified a comprehensive list of OPPs was to manually read the Method sections, footnotes, and appendices of every empirical article.

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

10

Once our manual search was completed and we had a list of OPPs, we took steps to ensure there were no omissions by conducting a query-based search. In addition to including the list of OPPs generated from our manual search, our query-based search included the terms “online labor market,” “online data,” “online panel,” and “panel data.” We then used Boolean operators to search both ABI EBSCO and Google Scholar databases for the years 2005 through 2017. Our efforts resulted in our identifying 804 studies in 439 articles published between 2006 and 2017.<sup>2</sup> Despite our deliberate starting point, we checked and confirmed that there were no management articles published in 2005 that used OPD. Table 1 presents both the number of studies (*n*) and articles (*k*) using OPD by journal.

Prior to coding any of the studies and articles, we met as a team to establish the coding criteria, agree upon best practices, and collectively code a subset of studies (*n* = 80) to ensure our independent coding would be consistent. Each author was then assigned approximately three to four journals to code independently. In addition to coding the journal in which the articles and studies appeared, we coded the OPP taking into account whether the OPP was *public* and openly available to researchers or *private*, providing access limited to a select few researchers. We also coded the nature of the primary research question. We identified whether OPD was used to address *substantive* (e.g., hypothesis significance testing for main hypotheses), *substantive pilot* (e.g., whether an experiment evoked the desired effect), or *measurement* (e.g., scale development) questions. We also coded for *method type* (i.e., correlational, experimental, or inductive) and *design elements* (i.e., time- and source-separation). Finally, we coded the *primary topic* (e.g., leadership or creativity) for each study.<sup>3</sup> Upon completion of each author’s independent coding, the team met again to reach agreement where uncertainty was present.

**FINDINGS AND RECOMMENDATIONS: LOOKING BACK TO LOOK AHEAD**

Figure 1 graphically depicts the number of articles published in management journals from 2006–2017. Since the first study published in 2006, there has been a fairly steady increase in the publication of OPD-based research. Major shifts along the way included 2010 ( $n = 13$ ) to 2011 ( $n = 27$ ) as well as 2012 ( $n = 35$ ) to 2013 ( $n = 62$ ), representing increases in OPD-based studies of 107.7% and 77.1%, respectively. However, the biggest increase came between 2014 ( $n = 71$ ) and 2015 ( $n = 207$ )—an increase of 191.5% in OPD-based studies. Coupled with the sheer number of articles identified in our review, these findings lend credence to our belief that the field seems beyond the question of whether, at a general level, OPD is appropriate; the acceptance and integration process by management scholars has begun.

These observations reinforce our belief that the time is appropriate for reviewing how OPD has been used in the management literature. These observations also demonstrate the urgency for an informed dialog about how OPD should—and could—best be utilized in future management research. Now is the time for the field to take a stance and adopt a common language. Accordingly, we develop a set of guidelines for management scholars aimed at: *using* OPD if appropriate; *choosing* an OPP; *reporting* the use of OPD; and *publishing* OPD studies. We refer to these four guidelines collectively as *using, choosing, reporting, and publishing*.

**On Using OPD**

One of the first, and arguably most important, issue scholars must address is whether OPD is appropriate for answering their research questions. Decisions about appropriateness should be determined primarily based on the a) topic and b) nature of the question being addressed. For example, a researcher examining the effects of witnessing abusive supervision—a topic some organizations may not want to acknowledge or address—might be well-justified in using OPD. This justification would be especially true if OP participant anonymity reduces fears

of retaliation or breaches of confidentiality that might otherwise undermine data collection from traditional convenience samples.

Our data demonstrate that there have been little, if any, topics management researchers have not explored using OPD. Topping the list was leadership ( $k=49$ ), decision-making ( $k=46$ ), and ethics and morality ( $k=36$ ), representing 11.2%, 10.5%, and 8.2% of the articles in our data, respectively.<sup>4</sup> Notably, OPD was used extensively to investigate potentially dark and sensitive management topics such as ethical and moral behavior, abusive supervision, and fairness. The sensitive nature of these topics may, in part, explain the frequency in which they have been explored with OPD. “Conventionally sourced” employees might be hesitant to provide candid, honest responses about these topics and organizations may have reservations about allowing researchers to collect data on these topics. That said, there is no reason—nor is there evidence to suggest—that OPD should be limited to certain topics.

Among the topics that have not been widely studied with OPD by management scholars, several are noteworthy. In a rare recruitment study, Phillips, Gully, McCarthy, Castellano, and Kim (2014) presented participants with recruiting messages that varied in terms of their reference to the hiring organization’s global presence and travel requirements. The authors wanted to understand the extent to which those messages interacted with participants’ global mindsets to ultimately influence job pursuit intentions. Indeed, OPD seems capable of facilitating research on recruitment, selection, retirement, turnover and other processes that occur during or near transitions into, between, or out of traditional jobs. OPD has not been used extensively to explore these sorts of topics, which we found ironic given the possibility that OP participants might be engaged in such e-work while experiencing such transitions. Given what appears to be

an increasing acceptance of OPD, it might only be a matter of time before the field observes an increase in the use of OPD across its broader range of topics.

An example of a topic that perhaps could be explored differently in future work using OPD is groups and teams. Although, scholars have conducted studies with OP participants who were part of fictitious teams or who were led to believe they were making decisions with others, (e.g., Swabb, Phillips, & Schaerer, 2016), the challenges to recruiting real, working groups and teams into OPs are obvious. Having said that, we do not see this as beyond the realm of possibility and could envision this being a future reality. One way a researcher might accomplish this would be by building their own private panel using participants who were organized in teams and with whom the researcher has previously encountered, perhaps in a more traditional research context. If some meaningful subset of the team is still intact, working interdependently, and willing to participate in future research, these participants could provide useful data obtained in the same fashion as OPD has been obtained.

Although the aforementioned examples are ones likely to be explored by micro and meso scholars, our data also suggest that an excellent opportunity for OPD in future management scholarship is its broader use by macro scholars. Indeed, there is overlap across many of the topics of interest to both micro and macro scholars (e.g., decision-making, leadership).

As evidence of the viability of using OPD in macro research, Crilly, Ni, and Jiang (2016) conducted an experiment that replicated their findings from a field study and extended those findings by testing an implied causal mechanism. Specifically, they examined the effects of a firm’s type of CSR activity and foreignness on attributions about why those firms engaged in socially responsible activities. The authors also evaluated the degree to which type of CSR, foreignness, and causal attributions drove overall impressions of the firm.

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

14

Turning next to the nature of the research question being asked, we examined the extent to which OPD has been used to address measurement, substantive, and substantive pilot questions. (see again Table 1 and also Table 2). Table 1 presents the results of our coding by journal while Table 2 presents the same information by OPP. Together they shed light on how OPD has been used, from whom it has been collected, and where it has been published by management scholars (readers interested in a detailed look at OPD use by topic should refer to Online Supplemental Materials B.) As seen in the tables, OPD was used quite extensively to test substantive research questions (e.g., null-hypothesis significance testing). Specifically, 634 (or 78.9%) of the studies in our review tested substantive research questions, which we distinguished from substantive pilot studies ( $n = 46$ , or 5.7%).

Our data further indicate that management scholars used a range of different methodologies when conducting OPD-based research (i.e.,  $n = 477$ , or 59.3%, for experiments and  $n = 321$ , or 39.9%, for correlational research). These findings not only demonstrate the broad utility of OPD, they suggest that OPD has been used by management scholars with different backgrounds, training, and expertise. Moreover, these findings suggest that OPD might be especially relevant to a broader set of researchers, including those who have not relied on OPD including, again, those studying traditional macro topics.

In fact, macro scholars may find that OPD proves superior to traditional samples in some cases. For example, Wowak, Mannor, Arrfelt, and McNamara (2016) had undergraduates code CEO dossiers. Recall that the impetus behind the creation of OPPs was to outsource tasks too difficult for computers—like coding—to e-workers. Perhaps Wowak et al. (2016) could have had OP participants, particularly those with experience working in organizations with CEOs, do that same coding. By way of another example, consider that OPPs operate and exist all over the

world. Therefore, studies that require an international sample of working adults, such as the study conducted by Chua, Morris, and Ingram (2009), in which they examined trust in Chinese and American managers’ professional networks, may also be good candidates for OPD.

As macro scholars increasingly rely on experiments and other research features historically associated with micro research, they might use OPD to develop and pilot test scales, pretest experimental manipulations, and conduct other research that typically precedes traditional field tests. For instance, Shapira and Shaver (2014) used four waves of MBA students to pilot test decision-making experiments they later ran with more MBA students. The authors suggested many of their MBA students were also working professionals—a criterion many OPPs allow researchers to include in their selection process.

In these examples, nothing about the pilot or primary study samples precluded the use of OP participants. Moreover, using non-students could eliminate or reduce concerns about a potential lack of voluntary participation and coercion. However, we recognize that MBAs may have more direct contact with researchers and the opportunity that contact affords for personal reminders and strengthening personal connections relative to OP participants. Thus, student samples may have an advantage in terms of increased participation and response rates.<sup>5</sup>

To reiterate, we are not suggesting that there was anything inherently wrong with the participants used in any of the aforementioned examples. We are merely emphasizing that OP participants may have been equally appropriate based on our current understanding of OPD validity and its increasing acceptance in the field. Given the commonalities in the work being done by micro and macro scholars alike, it is difficult to think of reasons why macro scholars would not increasingly use OPD. Going forward, we recommend that all scholars in the field at

least consider the potential advantages of OPD. The trends we observed in our data (see again Figure 1) lead us to expect a significant increase in the use of OPD “across the board.”

We should also note one other methodological observation based on our review—one that suggests another important consideration and recommendation for management scholars. We found that only 0.7% of OPD studies used inductive methods ( $n = 6$ ). This suggests missed opportunities for management scholars wishing to use richer (e.g., interviews) or more powerful (e.g. longitudinal studies that can shed light on causal processes) designs. Given the capabilities of some of the OPPs included in our data (see again Table 2), we recommend that when possible, management scholars exploit OPPs’ capabilities to accommodate such designs.

In sum, the use of OPD must, first and foremost, be driven by the research question or questions. Although the topic area and the nature of scholars’ research questions are the key determinants of the extent to which OPD is appropriate, we propose four secondary research-driven considerations. Researchers and evaluators should also keep these considerations or “decision points” in mind when deciding whether OPD is appropriate regardless of the type of question being asked (i.e., measurement or substantive). Among the decision points critical enough to be labelled secondary considerations are: the representativeness of the participants OPs can offer, the extent to which OPs can offer participants with the necessary knowledge, skills, and abilities (KSAs) required for study participation, the extent to which the study can be influenced by practice effects, and whether OPs can support the study’s technological requirements. We discuss each of these issues below.

*Representativeness.* OPPs and third-party applications have proven to be a tremendous resource for scholars requiring access to specific populations. Tools such as TurkPrime now offer the ability to select samples based on unique participant qualifications ranging from



medical conditions to dietary habits and the list continues to expand. For qualifications not yet available via these services, researchers can administer discreet prescreening surveys (cf., Chandler et al., 2014). Of course, there are certain populations that would be unrealistic to access via OPPs. For example, if research involves studying perceptions of Fortune 100 CEOs, then OPD will probably be inappropriate as these top-level executives are unlikely to belong to most OPs (Stritch, Pedersen, & Taggart, 2017).

*KSAs.* Management research typically requires participants to possess basic knowledge, skills, or abilities to complete a research task. Indeed, OPPs like MTurk were designed for these types of tasks, making them well-suited for many management studies. For example, Tosti-Kharas and Conley (2016) asked OP participants to read a passage and rate that passage for constructs such as emotional tone. This type of study approximates a typical OP study that can be completed by participants with little or no training (Brawley & Pury, 2016). However, there are instances where a lack of knowledge on the part of the participant may serve as a source of error (Fowler, 2009). For example, a study might require the use of expert raters—such as participants who have spent years studying a subject area—to perform a task. In these instances, OPD may be inappropriate.

*Practice Effects.* When assessing the appropriateness of OP participants, evidence suggests study experience may be less important for studies involving unique instruments or manipulations (Chandler et al., 2014). Similarly, experience may be less important for studies involving perceptual data such as personality measures (DeVoe & House, 2016; Miller, Crowe, Weiss, Maples-Keller, & Lynam, 2017). That said, there is evidence that more experienced participants have likely seen and respond differently to studies involving common manipulations or cognitive tests (Chandler et al., 2015; Chandler et al., 2014; DeVoe & House, 2016).

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

18

Therefore, OPD would likely be inappropriate—especially in the case of more experienced participants—for research that involves common manipulations or cognitive measures that cannot be made novel (Paolacci & Chandler, 2014).

*Technological Requirements.* As access to technology becomes cheaper and more accessible, researchers have grown increasingly sophisticated with the type of research they can perform remotely. Indeed, Chandler and Shapiro (2016) pointed out that OPPs like MTurk can accommodate technology that requires measuring momentary reaction times such as Stroop Tests (Crump, McDonnell, & Gureckis, 2013) and Implicit Association Tests (Klein et al., 2014). With that said, there are limits in terms of technology that can reasonably be accommodated with OPD. For example, management researchers who use functional magnetic resonance imaging (fMRI) could not reasonably expect to incorporate such a measurement tool in an OP study based on today's technology.

We would be remiss if we did not make two special notes. First, we cannot overemphasize how much we discourage scholars from using OPD solely for the sake of convenience. Convenience—both in terms of speed and cost of data collection—may be the single greatest advantage of OPD. However, as Goodman and Paolacci (2017) warned, that advantage could pose serious threats. If left unchecked, the convenience factor of OPD could inadvertently drive research agendas resulting in research questions being tossed aside or modified so that they are “OPD-friendly.” We share the concerns raised by those authors and suggest that the research question itself should dictate whether OPD is appropriate—not the other way around.

Second, it is worth noting that the OP landscape is constantly changing such that what seems unrealistic today may very well be a reality tomorrow. To illustrate, consider that

Buhrmester et al. (2011) recently suggested physiological measurements with OPD would be “impossible.” Yet, researchers have already begun using OP participants for studies involving remote eye-tracking, facial expressions, and heart rate monitoring (Goodman & Paolacci, 2017; Chandler & Shapiro, 2016). Just imagine if OPPs began to specialize in recruiting CEOs from Fortune 100 companies or if technology made it feasible to capture fMRI-type data from OP participants. While those changes may seem a bit of a stretch, we were shocked to discover the number of advancements that have taken place in just the last decade. For that reason, we encourage researchers to constantly be aware of changes that may impact how the research question determines the appropriateness of OPD. Table 3 summarizes our discussion of these secondary considerations and provides current examples of when OPD would and would not be appropriate. Therefore, when coupled with advice about first considering the research topic and the nature of the research question, Table 3 serves as an additional guide for scholars.

**On Choosing an OPP**

When many scholars think “OPP,” they think “MTurk.” In fact, MTurk is often used synonymously with OPD. Our review indicates that, although MTurk was clearly the most often used OPP, assuming that an OPD study is an MTurk study is a mistake. Management researchers used as many as 26 different OPPs from 2006–2017. These OPPs included MTurk ( $n = 531$ , or 65.8%), StudyResponse ( $n = 67$ , or 8.3%), Qualtrics ( $n = 45$ , or 5.6%), and Zoomerang ( $n = 10$ , or 1.2%). Collectively, those four OPPs appear to be where most (80.9%) of the OPD used by management researchers was derived, as seen in Table 2. To facilitate the interpretation of results, we labeled the remaining 22 identifiable OPPs as either *other public* ( $n = 52$ , or 6.5%) or *other private* ( $n = 5$ , or 0.6%).<sup>6</sup> Notably, the OPP was *unspecified* in 101 (12.1%) of our studies.

More worrisome, there were multiple *unspecified* articles each year from 2010 to 2017, demonstrating a consistent lack of consensus on how to report OPD—a point we cover later.

With so many OPPs to choose from, researchers may be left wondering, “Which OPP is best for me?” Similarly, editors and reviewers may wonder, “Which OPP should researchers use?” Consistent with our previous recommendation that the decision about whether to use OPD should be research driven, we recommend that decisions about which OPP one uses be based on the OPPs fit with the research agenda rather than generalizations about those OPPs or their popularity.

Take, for example, a researcher seeking to collect *source-separated* data. Source-separation—a technique used to mitigate common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003)—occurs when data is collected from two or more sources. It typically requires a researcher to obtain contact information from participants, which some OPPs do not allow. As seen in Table 2, no MTurk studies used source-separation because the OPP has no mechanisms for, and discourages, it (Miller et al., 2017). In contrast, 63.0% of all source-separated studies were conducted using data from StudyResponse. (As an aside, it is noteworthy that we found little evidence of the use of either source- or time-separated design elements in our data).

We also recommend that if issues such as the ability to collect source- or time-separated data indeed drive decisions about the OPPs researchers choose, researchers clearly report the impetus behind their decision-making. As OPPs continue to evolve, information like this will facilitate research and advance the field. For example, other researchers may better target their own data collection efforts based on that information. Similarly, researchers’ choices might spur competitiveness among OPPs, increasing the quality and range of the services they offer.

Moreover, this type of reporting also forces researchers to think beyond surface-level criteria (e.g., cost or ease) when selecting an OPP.

Scholars’ decisions about the appropriateness of OPPs may be due to real or imagined differences about various OPPs’ capabilities handling rigorous research designs. We recognize that the inputs for such decisions are everchanging as OPPs appear, dissolve, and evolve. It follows that scholars’ understanding about what different OPPs can offer must evolve as well. As an example, a research team familiar and comfortable only with MTurk might “choose” to conduct a study utilizing time-separation rather than source-separation. In doing so, this team has potentially missed an opportunity to utilize a design element that might be more appropriate for their research question. In that vein, that same research team might not even be aware of changes in MTurk’s capabilities since the last time they used MTurk. Regardless, research questions and design elements should drive the choice about OPPs; OPPs should not drive research questions and design elements.

As another example of how the choice of OPP could and should be research-driven, it might be that an OPP is chosen because of the type of participants the OPP makes available. There is preliminary evidence that OPPs vary in their demographic diversity, with MTurk being recognized as particularly diverse relative other OPPs (Buhrmester et al., 2011; Keith & Harms, 2016). Researchers requiring a diverse sample of participants might therefore choose MTurk or some similar OPP over an alternative OPP. For example, a private OPP that limits its enrollment as participants to students and alumni (e.g., Yale’s eLab) might not be able to yield the sort of diversity a researcher needs to explore a particular research question.

Finally, if there is concern that OPP choice could influence results, there is value in using multiple, independent OPP samples (Peterson & Merunka, 2014). While this decision must be

approached cautiously—a point we will explain later—it might help assuage concerns about generalizability. Surprisingly, we found little evidence in our data that researchers took advantage of multi-OPP samples (for an exception, see Mochon & Frederick, 2013).

### **On Reporting the Use of OPD**

A holistic, consistent, and transparent approach to reporting basic OPD-related information is critical if we, as a field, are to move beyond unsubstantiated objections to OPD. What might that basic information entail? As a starting point, scholars should report of all the data necessary for future, secondary analyses (e.g., meta-analyses) of their findings. Beyond sample demographic data, researchers should also report means, standard deviations, and effect sizes (for a current review of best reporting practices, see Appelbaum, Cooper, Kline, Mayo-Wilson, Nezu, & Rao, 2018). One potential moderator that might be important for secondary analyses that is unique to OPD research is the specific OPP used. While transparency about the OPP used might seem intuitive, recall that the OPP was unidentified in over 12% of the studies in our review. As research utilizing OPD amasses, comparisons of, for example, effects across OPPs will be facilitated to the extent that researchers report such information.

While there may be utility in combining samples (e.g., a multi-OPP sample) in a single study, we encourage scholars to take special care in reporting such results. Specifically, we recommend that researchers demonstrate and report the appropriateness of combining data from different sources, including different OPPs or OPPs and traditional samples (e.g., Rouse, 2015). Moreover, researchers should ensure that sufficient information is provided to allow interested scholars to understand each individual sample. To illustrate a case of inadequate multi-sample reporting, the authors of one study in our review combined an OP sample with a traditional sample and only reported an overall, aggregate sample size. This lack of detail makes it

impossible to determine to what extent the final sample was composed of OP participants compared to traditional participants. To make matters worse, the authors provided no justification for their decision to combine the samples.

It may seem obvious that authors should be transparent in reporting the fact that they used OPD at all. However, our data reveal cases where information was so ambiguous that it was nearly impossible to determine whether an OP sample had been used. Thus, at a minimum, authors must clearly report that OPD has been used. We also raise this point for a second reason. Recall that we conducted a manual search for this review, in part, because OPD use was occasionally reported in footnotes and appendices, even for primary studies. In the interest of transparency, such information belongs “front and center” in Method sections and we recommend that authors and evaluators insist on this in future work. Simply put, scholars reporting and evaluating research that includes OPD should expect and demand the same degree of transparency required when using traditional convenience samples. Perhaps efforts to avoid drawing attention to OPD use and lack of transparency might be attributed to its novelty over the last decade. However, there is no reason for management researchers to be anything less than upfront about OPD use going forward.

Finally, researchers should report study incentives. Although recent work has attempted to highlight the ethical concerns surrounding OP participant compensation (Crone & Williams, 2017; Goodman & Paolacci, 2017), our review suggests the ongoing relevance of this concern in management research. We adopt the view of Aguinis and Lawal (2012) who view OP participants as e-workers; thus, participants should be appropriately compensated for their work. That said, 47% of studies in our data set failed to report any form of payment for OP participants. Additionally, we identified extreme pay discrepancies in which OP participants were paid less

than \$1/hour (federal minimum wage is \$7.25/hour). We also identified instances where OP participants were paid significantly less than undergraduates for identical work.

More problematic, and to our point about transparency in reporting, only 45 studies reported both the time required to participate and compensation, making it virtually impossible to determine the extent to which participants were paid equitably. Justice and equity are regularly evoked constructs in management. As such, we could not help but notice and admonish the irony in some researchers' "do as I say, not as I do" behavior. Our hope is that clear and consistent reporting of participant payment and time requirements will help hold researchers accountable for fair and equitable treatment of OP participants.

### On Publishing OPD Studies

As we demonstrated, OPD-based research is being published across a broad array of management journals. However, Table 1 only tells part of the story. To develop recommendations about publishing OPD studies, we found it important to go back to the beginning. The first published management study using OPD was published in *Academy of Management Journal* (i.e., Piccolo & Colquitt, 2006) using data obtained from StudyResponse. Later that year, a second study (i.e., Judge, Ilies, & Scott, 2006) appeared in *Personnel Psychology*. Interestingly, although both *Academy of Management Journal* and *Personnel Psychology* were early adopters, neither published OPD-based research for the next several years. Meanwhile, other journals such as *Organizational Behavior and Human Decision Processes* and *Journal of Applied Psychology* began to publish OPD-based research regularly.

By 2011, 8 of the 13 journals included in our review had published studies utilizing OPD, the exceptions being *Journal of International Business Studies*, *Journal of Organizational Behavior*, *Organization Science*, *Strategic Entrepreneurship Journal*, and *Strategic Management*



*Journal*. The next milestone was 2016, the year every journal in our review had published OPD-based research—a remarkable observation for two reasons. First, this finding signaled that OPD was no longer limited to any realm of management scholarship. Second, this finding confirmed that OPD can be used and published by both macro and micro scholars.

Thus, our data suggest that scholars have not limited their potential publication outlets, at least among outlets included in our review. We have little reason to expect that, going forward, scholars will limit their potential publication outlets unless specifically advised by editorial teams that their journal will not publish OPD-based research (we revisit this below). Having said that, we acknowledge that almost all OPD-based studies in our review were published in either micro (e.g., *Journal of Applied Psychology*) or mixed (i.e., micro and macro, “big tent” journals such as *Journal of Management* and *Academy of Management Journal*). But again, we did find macro-oriented articles featuring OPD published in macro-oriented journals (e.g., Crilly et al., 2016 and Harmon, Kim, & Mayer, 2015)—a trend we anticipate will increase.

We caution readers not to use our data to draw conclusions about journals’ receptivity to OPD-based research. Instead, authors should turn to evaluators themselves for these answers. As such, we encourage evaluators—in particular, journal editors—to do their part to reduce lingering ambiguity. Now is the time for editors to take a position regarding their receptivity to OPD. There are two reasons why we strongly recommend that evaluators provide prospective authors with clear statements regarding the viability of publishing OPD-based research.

First, those statements could result in a reduction in selection bias when authors choose an outlet for their work. We believe this is an important point to note because of the differences we observed in OPD-based article publication rates across journals. Those differences could be a function of submitting authors’ selection bias as opposed to the journals (i.e., editors and

editorial boards) themselves. Second, our data do not suggest clear patterns regarding journals' preferences in the OPD-based research they publish. However, and as seen in Table 1, it may be the case that journals vary in their expectations of research design strength when OPD-based research is published. For example, more than any other journal included in our review, *Journal of Applied Psychology* published OPD-based research featuring complex design elements. Table 4 summarizes our recommendations for *using, choosing, reporting, and publishing*.

### On OPD Best Practices and the Prevalence of Disagreement

We would be remiss if we had not looked both within and outside of management in an effort to supplement our recommendations regarding using, choosing, reporting, and publishing OPD. Thus, we compiled the most complete set of *best practices* concerning how to conduct OPD research. After reviewing dozens of articles from far ranging disciplines (e.g., economics to public administration) and identifying hundreds of recommendations from those articles, a surprising theme of disagreement began to emerge. While it is true that some OPD best practices appear to be universally agreed upon, many appear to contradict each other, at least on the surface. Others directly, and unmistakably, contradict each other. Appendix A (which readers can obtain in Online Supplemental Materials C) shines a light on this disagreement by providing an exhaustive list of best practices, the rationale behind those practices, contradictions, and evidence (or lack thereof) supporting those practices. Importantly, readers should note that not all recommendations were data-driven. Table 5 presents an abbreviated compilation of the practices but readers are encouraged to consult the complete list in the appendix.

In total, we identified 67 unique practices that we then grouped into ten topics ranging from the recruitment and selection of OP participants to institutional responsibilities. Space does not permit us to detail each best practice and all of the disagreements. Therefore, we highlight

three of the most highly contested topic areas to demonstrate how the information provided in Appendix A informs researchers and evaluators in their efforts to publish and critique OPD-based research. Notably, the three examples we focus on here are not entirely unique to OPD-based research. However, each relates to OPD validity—validity which previous work has questioned. Readers should also note that Appendix A identifies several practices unique to OPD (e.g., use of participant reputation information, capturing internet protocol addresses, awareness of OPP’s policies, etc.). Finally, the examples we discuss here point to the need for further research. This need is particularly true for recommendations that lack empirical support, of which we found more than a few (see Online Supplemental Materials D for a complete list of the research cited in Appendix A).

The best practice for ensuring high data quality (or identifying and addressing “low quality” responses) is among one of the most debated topics and is our first example. To illustrate, suppose a researcher embeds a conventional attention check item such as “Please select the circle under ‘neutral’” in a survey. If a participant selects the wrong circle, the researcher assumes that the participant put forth little effort and decides to remove that participant’s data. Is such action justifiable, ethical, or effective? Arguments against such techniques include evidence that suggest checks do not substantially improve the data (e.g., Goodman, Cryder, & Cheema, 2013; Downs, Holbrook, & Peel, 2012). Others have argued that such checks may create resentment among participants (Peer, Vosgerau, & Acquisti, 2014).

Some researchers support the use of attention checks, but only in certain circumstances. For example, Peer et al. (2014) found that attention checks were effective at improving data quality, but only when participants with lower “approval ratings” were recruited. How the attention checks are presented is also debatable. For example, some researchers argue that checks

should only be used in “screener surveys” and not in post-hoc analyses. Participants who pass the checks in the screener are allowed to continue to the substantive survey while those that fail the checks are not invited. The concern is that researchers who include such checks in the substantive study may be dishonest and abuse screening techniques during data analysis to obtain desired results (e.g., Chandler et al., 2014; Simmons, Nelson, & Simonsohn, 2011).

As a final point to consider regarding data quality, identifying and removing “bad” data need not be limited to these conventional attention checks. Some researchers have advocated for less traditional approaches, such as creating novel checks, using instructional manipulation checks (e.g., Hauser & Scharz, 2016) or simply asking participants if they were attentive (e.g., Aust, Diedenhofen, Ulrich, & Musch, 2013). Alternatively, researchers have used other indicators of poor data quality such as survey completion times, response set tendencies, or inconsistent responses. Some researchers have even suggested creating a higher-order scale using multiple indicators to gauge data quality (e.g., Huang, Bowling, Liu, & Li, 2015). Meade and Craig (2012) provide an excellent resource for researchers seeking an in-depth look at available options for identifying careless responses.

Our second example concerns best practices surrounding compensation and is another topic rife with controversy. Some argue that participants should be paid a low wage. Some quantitative evidence has emerged suggesting pay—even as low as \$0.04/hour—does not impact data quality (e.g., Buhrmester et al., 2011) while some qualitative evidence suggests it does (Lovett, Bajaba, Lovett, & Simmering, 2018). Of course, regardless of pay’s impact on data quality, there are still ethical issues with which to contend (Gleibs, 2017). For that reason, some advocate for relatively attractive wages, even suggesting the U.S. Federal minimum wage of \$7.25/hour (e.g., Goodman & Paolacci, 2017). In between the two groups are researchers who

argue that attractive wages open the door to problems (Chandler et al., 2014), thus suggesting a “middle of the road” approach. For example, Stritch et al. (2017) suggested paying participants the going market rate (e.g., \$2/hour).

Our final example of a highly debated best practice concerns the use of OPD to conduct cross-cultural research. Some researchers endorse the use of OPD to conduct cross-cultural research with little reservation (e.g., Woo, Keith, & Thornton, 2015; Goodman & Paolacci, 2017). Yet, others discourage the use of non-U.S. based samples for multiple reasons. Concerns arise when English-based OPPs (such as Amazon’s MTurk) are used to recruit and select participants in countries where English is not the native language. The fear is that such samples may not be representative of the population (Buhrmester et al., 2011; Cheung et al., 2017). Second, evidence suggests that non-U.S. OP participants may provide inferior quality data (Litman, Robinson, & Rosenzweig, 2015; Feitosa, Joseph, & Newman, 2015). That said, we were able to locate several studies that recruited foreign participants using an OPP located in those participants’ native country with no reported data quality issues (e.g., Ng & Feldman, 2012; 2015).

These examples illustrate the disagreement that exists regarding how to execute OPD research. Our primary goal is to ensure that researchers and evaluators of OPD-based research are armed with as much data-driven information to guide their decisions as possible. As we noted at the outset and as our review suggests, OPD is likely to continue to be a convenience sample that an even broader group of management scholars utilize. To realize that potential, we must collectively gain a better understanding of OPD including when to use it, how to use it, how to report it, and where to publish it. We hope our efforts to raise awareness on these issues and promote informed, critical decision-making regarding best practices increases the overall quality

of the work produced in our field. Where our efforts uncovered disagreement, we hope scholars devote attention to create consensus that can further guide researchers.

### **LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH**

Although we strove to ensure our work was based on a thorough and rigorous review of the literature, there were some limitations that represent additional opportunities for future research. First, our review does not cover an exhaustive set of management journals. Our sample of journals was chosen based on efforts to balance impact and breadth, but future research could use our list of OPPs to electronically search through an even wider range of management journals. Second, although our review was able to show trends of OPD use in the management literature, we were unable to systematically explore why those trends occurred. We are unable to speak directly to the thoughts, aspirations, and decision-making processes of authors, editors, and reviewers. Future research could shine a light on this “black box” to better understand why these trends occurred, perhaps by collecting data from editors and reviewers who have critiqued work based on OPD or from authors who have attempted to published such work. A third limitation is that it has been just over a decade since management scholars began using OPD. A decade from now, we would expect scholars replicating our work would generate a sample that would dwarf our dataset and include a broader range of topics and OPPs.

Aside from addressing our limitations, there are other important opportunities for future research that follow from our review. Settling the many debates about best practices that our review highlighted is a critical direction for future research. Another opportunity involves exploring whether there may be differences in the scholarly impact—as measured by citations—of articles utilizing OPD compared to articles using other convenience samples. We raise the issue of citations given their far-ranging impact—from pay and promotion decisions to

enhancing reputations of departments and universities (Judge, Cable, Colbert, & Rynes, 2007). Could the use of OPD influence citation count? Judge and colleagues (2007) explored a similar question by looking at whether non-student samples influenced citation count but found no evidence linking the two. However, that study was performed around the time OPD use was just taking off and no attempt was made to identify samples beyond student or non-student. If a study similar to the Judge et al. (2007) analysis was conducted now, what might the relationship between OP samples and citation count look like?

A similar question concerns the extent to which the notoriety of an OPP matters when it comes to an article’s impact, as measured by citations. For example, could a better-known OPP like MTurk be viewed as a more trustworthy convenience sample than a lesser-known OPP? In turn, could that trustworthiness ultimately result in more citations? While that scenario is possible, another possibility is that lesser-known OPPs “fly under the radar,” avoiding the scrutiny that more widely-known OPPs may generate. We hope future research addresses these and similar questions as it relates to distal consequences of using OPD, both for authors and the field. While we would have welcomed the opportunity to answer these and similar questions in our review, the relative novelty of OPD and the time required for sufficient variance in citations to amass prevented us from doing so.

CONCLUSION

We presented a review of just over a decade of OPD use by management scholars—one that suggests that our field has largely embraced OPD. Moreover, our findings suggest a growing legitimacy of OPD in the field. We believe the time has come for the field to embrace a sentiment similar to that expressed over 30 years ago by Ilgen (1986) concerning the appropriateness of laboratory research for management scholarship. Rather than objecting to,

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

32

being unwilling to consider, and underestimating the utility of OPD, management scholars are better served by asking when and how OPD can best be exploited to answer research-driven questions.

For Peer Review



REFERENCES

- Aguinis, H., & Lawal, S. O. 2013. eLancing: A review and research agenda for bridging the science–practice gap. *Human Resource Management Review*, 23: 6–17.
- Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. 2018. Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board Task Force report. *American Psychologist*, 73: 3–25.
- Aust, F., Diedenhofen, B., Ullrich, S., & Musch, J. 2013. Seriousness checks are useful to improve data validity in online research. *Behavior Research Methods*, 45: 527–535.
- Baer, M. D., Bundy, J., Garud, N. & Kim, J. K. in press. The benefits and burdens of organizational reputation for employee well-being: A conservation of resource approach. *Personnel Psychology*.
- Behrend, T. S., Sharek, D. J., Meade, A. W., & Wiebe, E. N. 2011. The viability of crowdsourcing for survey research. *Behavior Research Methods*, 43: 800–813.
- Bono, J. E., Glomb, T. M., Shen, W., Kim, E., & Koch, A. J. 2013. Building positive resources: Effects of positive events and positive reflection on work stress and health. *Academy of Management Journal*, 56: 1601–1627.
- Boswell, W. R., Olson-Buchanan, J. B., & Harris, T. B. 2014. I cannot afford to have a life: Employee adaptation to feelings of job insecurity. *Personnel Psychology*, 67: 887–915.
- Brawley, A. M., & Pury, C. L. 2016. Work experiences on MTurk: Job satisfaction, turnover, and information sharing. *Computers in Human Behavior*, 54: 531–546.
- Buhrmester, M., Kwang, T., & Gosling, S. D. 2011. Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6: 3–5.

Callegaro, M., Baker, R. P., Bethlehem, J., Göritz, A. S., Krosnick, J. A., & Lavrakas, P. J.

2014. *Online panel research: A data quality perspective*. New York: Wiley.

Chandler, J., Mueller, P., & Paolacci, G. 2014. Nonnaïveté among Amazon Mechanical Turk workers: Consequences and solutions for behavioral researchers. *Behavior Research Methods*, 46: 112–130.

Chandler, J., Paolacci, G., Peer, E., Mueller, P., & Ratliff, K. A. 2015. Using nonnaïve participants can reduce effect sizes. *Psychological Science*, 26: 1131–1139.

Chandler, J., & Shapiro, D. 2016. Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology*, 12: 53–81.

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. 2017. Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business Psychology*, 32: 347–361.

Chua, R. Y. J., Morris, M. W., & Ingram, P. 2009. Guanxi vs. networking: Distinctive configurations of affect- and cognition-based trust in the networks of Chinese vs. American managers. *Journal of International Business Studies*, 40: 490–509.

Clark, T. 2011. Gaining and maintaining access: Exploring the mechanisms that support and challenge the relationship between gatekeepers and researchers. *Qualitative Social Work*, 10: 485–502.

Crilly, D., Ni, N., & Jiang, Y. 2016. Do-no-harm versus do-good social responsibility: Attributional thinking and the liability of foreignness. *Strategic Management Journal*, 37: 1316–1329.

Cohen, J. 1992. A power primer. *Psychological Bulletin*, 112: 155–159.

Crone, D.L., & Williams, L.A. 2017. Crowdsourcing participants for psychological research in Australia: A test of microworkers. *Australian Journal of Psychology*, 69: 39–47.

Crump, M. J., McDonnell, J. V., & Gureckis, T. M. 2013. Evaluating Amazon's Mechanical Turk as a tool for experimental behavioral research. *PloS one*, 8, e57410.

Cunliffe, A. L., & Alcadipani, R. 2016. The politics of access in fieldwork: Immersion, backstage dramas, and deception. *Organizational Research Methods*, 19: 535–561.

DeVoe, S. E., & House, J. 2016. Replications with MTurkers who are naïve versus experienced with academic studies: A comment on Connors, Khamitov, Moroz, Campbell, and Henderson (2015). *Journal of Experimental Social Psychology*, 67: 65–67.

Downs, J. S., Holbrook, M. B., & Peel, E. 2012. *Screening participants on Mechanical Turk: Techniques and justifications*. Paper presented at the Annual Conference of the Association for Consumer Research: 113–114.

Elenkov, D. S., Judge, W., & Wright, P. 2005. Strategic leadership and executive innovation influence: An international multi-cluster comparative study. *Strategic Management Journal*, 26: 665–682.

Feitosa, J., Joseph, D. L., & Newman, D. A. 2015. Crowdsourcing and personality measurement equivalence: A warning about countries whose primary language is not English. *Personality and Individual Differences*, 75: 47–52.

Fowler, F. J. 2014. *Survey Research Methods*. Thousand Oaks, CA: Sage Publications.

Gamache, D. L., McNamara, G., Mannor, M. J., & Johnson, R. E. 2015. Motivated to acquire? The impact of CEO regulatory focus on firm acquisitions. *Academy of Management Journal*, 58: 1261–1282.

- Gleibs, I. H. 2017. Are all “research fields” equal? Rethinking practice for the use of data from crowdsourcing market places. *Behavior Research Methods*, 49: 1333–1342.
- Goodman, J. K., Cryder, C. E., & Cheema, A. 2013. Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, 26: 213–224.
- Goodman, J. K., & Paolacci, G. 2017. Crowdsourcing consumer research. *Journal of Consumer Research*, 44: 196–210.
- Görizt, A. S. 2007. Using online panels in psychological research. In A. N. Joinson, K. Y. A. McKenna, T. Postmes, & U. -D. Reips (Eds.), *The Oxford Handbook of Internet Psychology*: 473–485. Oxford, England: Oxford University Press.
- Harmon, D. J., Kim, P. H., & Mayer, K. J. 2015. Breaking the letter vs. spirit of the law: How the interpretation of contract violations affects trust and the management of relationships. *Strategic Management Journal*, 36: 497–517.
- Hauser, D. J., & Schwarz, N. 2016. Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, 48: 400–407.
- Huang, J. L., Bowling, N. A., Liu, M., & Li, Y. 2015. Detecting insufficient effort responding with an infrequency scale: Evaluating validity and participant reactions. *Journal of Business and Psychology*, 30: 299–311.
- Ilgen, D. R. 1986. Laboratory research: A question of when, not if. In E. A. Locke (Ed.), *Generalizing from laboratory to field settings*: 257–267. Lexington, MA: Heath.

- Insko, C. A., Wildschut, T., & Cohen, T. R. 2013. Interindividual–intergroup discontinuity in the prisoner’s dilemma game: How common fate, proximity, and similarity affect intergroup competition. *Organizational Behavior and Human Decision Processes*, 120: 168–180.
- Judge, T. A., Cable, D. M., Colbert, A. E., & Rynes, S. L. 2007. What causes a management article to be cited—article, author, or journal? *Academy of Management Journal*, 50: 491–506.
- Judge, T. A., Ilies, R., & Scott, B. A. 2006. Work–family conflict and emotions: Effects at work and at home. *Personnel Psychology*, 59: 779–814.
- Keith, M. G., & Harms, P. D., 2016. Is Mechanical Turk the answer to our sampling woes? *Industrial and Organizational Psychology*, 9: 162–167.
- Klein, R. A., Ratliff, K. A., Vianello, M., Adams, R. B. Jr., Bahník, S., Bernstein, M. J., Nosek, B. A., et al. 2014. Investigating variation in replicability: A “many labs” replication project. *Social Psychology*, 45: 142–152.
- Landers, R. N., & Behrend, T. S. 2015. An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology*, 8: 142–164.
- Li, H., Kuo, C., & Russell, M. G. 1999. The impact of perceived channel utilities, shopping orientations, and demographics on the consumer's online buying behavior. *Journal of Computer-Mediated Communication*, 5: 1–23.
- Litman, L., Robinson, J., & Rosenzweig, C. 2015. The relationship between motivation, monetary compensation, and data quality among US-and India-based workers on Mechanical Turk. *Behavior Research Methods*, 47: 519–528.

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

38

- 1  
2  
3 Little, L. M., Major, V. S., Hinojosa, A. S., & Nelson, D. L. 2015. Professional image  
4 maintenance: How women navigate pregnancy in the workplace. *Academy of*  
5  
6 *Management Journal*, 58: 8–37.  
7  
8  
9
- 10 Lovett, M., Bajaba, S., Lovett, M., & Simmering, M. J. 2018. Data quality from crowdsourced  
11 surveys: A mixed method inquiry into perceptions of Amazon's Mechanical Turk  
12 masters. *Applied Psychology*, 67: 339–366.  
13  
14  
15  
16
- 17 Mason, W., & Suri, S. 2012. Conducting behavioral research on Amazon's Mechanical  
18 Turk. *Behavior Research Methods*, 44: 1–23.  
19  
20
- 21 Meade, A. W., & Craig, S. B. 2012. Identifying careless responses in survey data. *Psychological*  
22 *Methods*, 17: 437–455.  
23  
24  
25
- 26 Miller, J. D., Crowe, M., Weiss, B., Maples-Keller, J. L., Lynam, D. R. 2017. Using online,  
27 crowdsourcing platforms for data collection in personality disorder research: The  
28 example of Amazon's Mechanical Turk. *Personality Disorders: Theory, Research, and*  
29 *Treatment*, 8: 26–34.  
30  
31  
32  
33  
34
- 35 Mochon, D., & Frederick, S. 2013. Anchoring in sequential judgments. *Organizational Behavior*  
36 *and Human Decision Processes*, 122: 69–73.  
37  
38  
39
- 40 Ng, T. W., & Feldman, D. C. 2012. The effects of organizational and community embeddedness  
41 on work-to-family and family-to-work conflict. *Journal of Applied Psychology*, 97:  
42 1233–1251.  
43  
44  
45  
46
- 47 Ng, T. W., & Feldman, D. C. 2015. Idiosyncratic deals and voice behavior. *Journal of*  
48 *Management*, 41: 893–928.  
49  
50
- 51 Paolacci, G., & Chandler, J. 2014. Inside the Turk: Understanding Mechanical Turk as a  
52 participant pool. *Current Directions in Psychological Science*, 23: 184–188.  
53  
54  
55  
56  
57  
58  
59  
60

- Paolacci, G., Chandler, J., & Ipeirotis, P. G. 2010. Running experiments on Amazon Mechanical Turk. *Judgement and Decision Making*, 5: 411–419.
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. 2017. Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, 70: 153–163.
- Peer, E., Vosgerau, J., & Acquisti, A. 2014. Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior Research Methods*, 46: 1023–1031.
- Peterson, R. A., & Merunka, D. R. 2014. Convenience samples of college students and research reproducibility. *Journal of Business Research*, 67: 1035–1041.
- Phillips, J. M., Gully, S. M., McCarthy, J. E., Castellano, W. G., & Kim, M. S. 2014. Recruiting global travelers: The role of global travel recruitment messages and individual differences in perceived fit, attraction, and job pursuit intentions. *Personnel Psychology*, 67, 153-201.
- Piccolo, R. F., & Colquitt, J. A. 2006. Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, 49: 327–340.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J-Y., & Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88: 879–903.
- Ramsey, S. R., Thompson, K. L., McKenzie, M., & Rosenbaum, A. 2016. Psychological research in the internet age: The quality of web-based data. *Computers in Human Behavior*, 58: 354–360.

- Rouse, S. V. 2015. A reliability analysis of Mechanical Turk data. *Computers in Human Behavior*, 43: 304–307.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. 2002. *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton-Mifflin.
- Shah, R. H., & Swaminathan, V. 2008. Factors influencing partner selection in strategic alliances: The moderating role of alliance context. *Strategic Management Journal*, 29: 471–494.
- Shapira, Z., & Shaver, J. M. 2014. Confounding changes in averages with marginal effects: How anchoring can destroy economic value in strategic investment assessments. *Strategic Management Journal*, 35: 1414–1426.
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. 2011. False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science*, 22: 1359–1366.
- Smith, N. A., Sabat, I. E., Martinez, L. R., Weaver, K., & Xu, S. 2015. A convenient solution: Using MTurk to sample from hard-to-reach populations. *Industrial and Organizational Psychology*, 8: 220–228.
- Stritch, J. M., Pedersen, M. J., & Taggart, G. 2017. The opportunities and limitations of using Mechanical Turk (Mturk) in public administration and management scholarship. *International Public Management Journal*, 20: 489–511.
- Swaab, R. I., Phillips, K. W., & Schaerer, M. 2016. Secret conversation opportunities facilitate minority influence in virtual groups: The influence on majority power information processing, and decision quality. *Organizational Behavior and Human Decision Processes*, 133, 17–22.



Texas A&M and University of Georgia 2018. *Texas A&M/University of Georgia rankings of management department research productivity*. Retrieved from:  
<http://www.tamugarankings.com/rankings/2017-2/>

Tosti-Kharas, J., & Conley, C. 2016. Coding psychological constructs in text using Mechanical Turk: A reliable, accurate, and efficient alternative. *Frontiers in Psychology*, 7: 741.

Tracy, S. J. 2013. *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. New York, NY: Wiley-Blackwell.

University of Texas at Dallas 2018. *The UTD top 100 business school research rankings*. Retrieved from: <http://jindal.utdallas.edu/the-utd-top-100-business-school-research-rankings/index.php>

Walter, S., Seibert, S., Goering, D. D., & O'Boyle, E. H. in press. A tale of two sample sources: Do results from online panel data and conventional data converge? *Journal of Business and Psychology*.

Woo, S. E., Keith, M., & Thornton, M. A. 2015. Amazon Mechanical Turk for industrial and organizational psychology: Advantages, challenges, and practical recommendations. *Industrial and Organizational Psychology*, 8, 171–179.

Wowak, A. J., Mannor, M. J., Arrfelt, M., & McNamara, G. 2016. Earthquake or glacier? How CEO charisma manifests in firm strategy over time. *Strategic Management Journal*, 37: 586–603.

Yamagishi, T., Mifune, N., Li, Y., Shinada, M., Hashimoto, H., Horita, Y., Miura, A., Inukai, K., Tanida, S., Kiyonari, T., Takagishi, H. & Simunovic, D. 2013. Is behavioral pro-sociality game-specific? Pro-social preference and expectations of pro-sociality. *Organizational Behavior and Human Decision Processes*, 120: 260–271.

## FOOTNOTES

<sup>1</sup> We thank an anonymous reviewer for highlighting this benefit of our methodology.

<sup>2</sup> A complete list of all of the articles with studies included in our review can be found in Online Supplemental Materials A.

<sup>3</sup> One caveat is that some studies addressed multiple topics. In those cases, we decided which topic best represented the primary study topic based on subjective evaluations of the title, abstract, keywords, and, when necessary, a complete reading of the study.

<sup>4</sup> For this discussion, we reference articles ( $k$ ) rather than studies ( $n$ ) because of the similarity of topics across studies within articles. As a robustness check, we ran analyses both ways—using articles as well as studies. The results of analyses were largely similar. When we narrowed our focal topics to those with 12 or more published articles, the only difference in results concerned emotion and affect, negotiation, individual differences, and creativity.

<sup>5</sup> We thank an anonymous reviewer for bringing this to our attention.

<sup>6</sup> For ease of interpretation, we separately identified and included only OPPs representing at least 1% of the data in our graphs and tables. OPPs that failed to meet this criterion were collapsed into one of two categories: *other public* or *other private*. The four most frequently used OPPs, when coupled with OPPs that were unspecified by authors (i.e., 12.1%) represented 93.0% of the studies. Thus, although simplified, our graphs and tables accurately and holistically represent our data.

ONLINE PANEL DATA IN MANAGEMENT RESEARCH

Table 1

Journal by Study Count, Article Count, Question Type, Method Type, and Design Element

Journals	Study Article Count		Question Type (k)		Method Type (k)			Design Elements (k)		
	(n)	(k)	Measurement	Substantive	Substantive Pilot	Correlational	Experimental	Inductive	Source Separated	Time Separated
AMJ	53	32	4	25	3	13	17	2	2	3
ASQ	12	9	3	6	0	7	2	0	0	1
JAP	131	93	25	62	6	69	23	1	5	25
JIBS	11	8	4	4	0	7	1	0	0	0
JOM	21	17	9	8	0	14	3	0	2	6
JOB	37	32	15	17	0	26	6	0	3	10
LQ	49	32	2	27	3	19	13	0	4	1
MS	61	26	11	12	3	8	18	0	0	1
OBHDP	362	138	13	113	12	40	97	1	2	6
OS	35	24	4	20	0	10	14	0	0	3
PP	25	22	8	13	1	19	3	0	3	6
SEJ	1	1	1	0	0	0	1	0	0	0
SMJ	6	5	0	5	0	2	3	0	1	0
Total	804	439	99	312	28	234	201	4	22	62

Note: n = number of studies; k = number of articles; AMJ = Academy of Management Journal; ASQ = Administrative Science Quarterly; JAP = Journal of Applied Psychology; JIBS = Journal of International Business Studies; JOM = Journal of Management; JOB = Journal of Organizational Behavior; LQ = Leadership Quarterly; MS = Management Science; OBHDP = Organizational Behavior and Human Decision Processes; OS = Organization Science; PP = Personnel Psychology; SEJ = Strategic Entrepreneurship Journal; SMJ = Strategic Management Journal.

Table 2

OPP by Study Count, Article Count, Question Type, Method Type, and Design Element

OPP	Study Count (n)	Article Count (k)	Question Type (n)		Method Type (n)			Design Elements (n)	
			Measurement	Substantive	Pilot	Correlational	Experimental	Inductive	Source Separated
MTurk	529	254	81	409	39	149	375	5	1
Qualtrics	44	32	10	34	0	26	17	1	0
StudyResponse	67	58	15	51	1	63	4	0	17
Zoomerang	10	10	4	6	0	8	2	0	1
Other Public	52	27	4	47	1	28	24	0	5
Other Private	5	1	1	4	0	2	3	0	0
Unspecified	97	57	9	83	5	45	52	0	3
Total	804	439	124	634	46	321	477	6	27

Note: n = number of studies; k = number of articles.

Table 3

How Research Determines Appropriateness of OPD: Secondary Considerations

Given research question...	When OPD would have likely been (in)appropriate	Justification for (in)appropriateness
Researcher determines whether OPs can provide a representative sample of the target population.	<b>Appropriate:</b> Investigate pregnant women and work (e.g., Little, Major, Hinojosa, & Nelson, 2015). <b>Inappropriate:</b> Explore CEO perceptions of top management team influence (e.g., Elenkov, Judge, & Wright, 2005).	<b>Appropriate:</b> Researchers can select specific attributes to recruit hard-to-reach samples. <b>Inappropriate:</b> Some subpopulations are unlikely to enroll as OP participants.
Researcher determines whether OP participants have KSAs required for meaningful results.	<b>Appropriate:</b> Conduct a content validation study using item-to-definition matching (e.g., Baer, Bundy, Garud, & Kim, in press). <b>Inappropriate:</b> Code using expert raters (Gamache, McNamara, Mannor & Johnson, 2015)	<b>Appropriate:</b> Judging whether an item seems to match a definition requiring basic verbal ability. <b>Inappropriate:</b> Some tasks require years of experience or highly-specific expertise.
Researcher determines whether measures or manipulations are subject to practice effects.	<b>Appropriate:</b> Collect attitude/behavior variables (Boswell, Olson-Buchanan, & Harris, 2014). <b>Inappropriate:</b> Run iterations of the prisoner's dilemma (e.g., Insko, Wildschut, & Cohen, 2013)	<b>Appropriate:</b> Repeated exposure to variables such personality traits are unlikely to bias results. <b>Inappropriate:</b> Use of common, widely available or known measures/manipulations.
Researcher determines whether OPs can support technological requirements.	<b>Appropriate:</b> Negotiations involving groups interacting in real time (Yamagishi et al., 2013). <b>Inappropriate:</b> Blood pressure monitors to measure stress (Bono, Glomb, Shen Kim, & Koch, 2013).	<b>Appropriate:</b> OPs are increasingly able to accommodate more sophisticated study tools. <b>Inappropriate:</b> Some studies require a level of sophistication beyond what OPs can handle.

Table 4

## General Recommendations Regarding Using, Choosing, Reporting, and Publishing OPD

<b>Using OPD</b> <b>Key Recommendation:</b>	<i>Research topic and the nature of the research question should be the primary factors determining whether OPD is appropriate for a study</i>
	Implications:
	<ul style="list-style-type: none"> <li>• OPD should not be limited to any particular type of management scholarship</li> <li>• The use of OPD does not prevent researchers from employing powerful research designs; in some cases, the use of OPD can facilitate powerful research designs</li> </ul>
<b>Choosing an OPP</b> <b>Key Recommendation:</b>	<i>Research design and needs should drive decisions about what OPP best fits a research question</i>
	Implications:
	<ul style="list-style-type: none"> <li>• Researchers should be aware of substantive differences across OPPs</li> <li>• Researchers should consider the appropriateness of using multiple OPPs, even within the same study</li> <li>• Researchers should explain OPP choice if their decision was driven by methodological considerations</li> </ul>
<b>Reporting OPD</b> <b>Key Recommendation:</b>	<i>Researchers using OPD should be held to the same reporting standards as researchers using traditional convenience samples</i>
	Implications:
	<ul style="list-style-type: none"> <li>• In most cases, OPD use should be clearly reported in Method sections as should the OPPs from which the data was obtained</li> <li>• Efforts to combined data from samples should be justified and reported such that samples could be disaggregated by other researchers</li> <li>• Selecting or utilizing OP participants meeting specific criteria (e.g., approval ratings) should be reported</li> <li>• Researchers should strive to treat OP participants equitably and should demonstrate evidence they have (i.e., report participant compensation and time requirements)</li> </ul>
<b>Publishing OPD</b> <b>Key Recommendation:</b>	<i>Scholars (in particular, editors and reviewers) should explain their position on publishing OPD</i>
	Implications:
	<ul style="list-style-type: none"> <li>• Positions about OPD appropriateness should be made clear to prospective authors and be evidence-based</li> <li>• Researchers should be prepared to defend decisions for study execution; defenses should be evidence-based</li> </ul>

Table 5

Abbreviated Compilation of Best Practices

Recommendation by Topic	
<i>Topic 1: Recruitment and Selection</i>	
1.	<b>Post a “HIT” more than once and be sure to spread those HITs out across different times of the day or even days of the week</b>
2.	<b>Only select workers who have completed relatively few (e.g., 0-100) studies</b>
3.	<b>When reputation information is available, restrict samples to “high reputation” workers (e.g., &lt; 95% approval) and possibly higher number of completed studies</b>
4.	<b>Make use of built-in and user-designed qualification features</b>
5.	Avoid qualification requirements not crucial to your research question
6.	<b>Include eligibility requirements clearly in your recruitment advertisement</b>
7.	Design presurveys that do not give away participation requirements
8.	<b>Describe research tasks generically at the outset</b>
9.	<b>Initially provide some details of experiment and approximately what participants will be doing</b>
<i>Topic 2: Study Planning and Design</i>	
10.	Be aware of the existence of multiple OPPs and make use of those OPPs
11.	<b>Create unique completion codes that participants must submit to get paid</b>
12.	Be aware of and make use of third-party apps (e.g., TurkPrime) to help manage the research process
13.	Increase your sample size to offset anticipated decreases in power
14.	Avoid common experimental paradigms and psychological measures
15.	Ensure study design consistency when combining samples
16.	<b>Temporally separate IVs and DVs when possible and/or appropriate</b>
17.	<b>Use source-separation for surveys when possible and/or appropriate</b>
18.	<b>Avoid OPD for cross-cultural research in non-English speaking countries or when unnecessary</b>
19.	<b>Make use of OPD for cross cultural research</b>
<i>Topic 3: Measures and Controls</i>	
20.	<b>Ask participants if they have participated in similar experimental manipulations before</b>
21.	<b>Track participant IDs to account for non-naïveté—asking participants if they have participated in similar experimental manipulations before is not enough</b>
22.	Measure the completion rate and bounce rate when possible
23.	Ask workers how they found your study
24.	Ask participants why they participated in your study
25.	Measure perceived equity for participation
26.	Measure sources of “noise” in the participant’s physical environment
27.	Control for the number studies previously completed by the participant
<i>Topic 4: Informing</i>	
28.	Post informed consent
29.	<b>Provide debriefing when appropriate</b>
30.	Specify any physical environment requirements ahead of time
31.	Ensure you provide good directions and that your survey formatting is free of error
<i>Topic 5: Data Quality</i>	
32.	<b>Provide warnings that inattentiveness will not result in compensation</b>
33.	<b>Pay inattentive workers but consider blocking them from future participation</b>

Note: **Bolded** best practices represent those in which there is disagreement.



## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

48

---

Recommendation by Topic

---

*Topic 5: Data Quality*

- 34. **Offer a second chance to participants who fail attention checks**
- 35. **Award bonuses for high-quality work and let participants know ahead of time that bonuses are available**
- 36. **Set upper and lower rates on survey completion times and reject work exceeding those limits**
- 37. **Do not put a time limit on how fast or slow a survey can be completed by participants**
- 38. **Create unique attention checks and/or use instructional manipulation checks**
- 39. **Use conventional attention checks to identify and potentially remove responses provided by careless respondents**
- 40. **Ask participants whether they were attentive and give them option to have data removed**
- 41. **Either prescreen for attentiveness or simply avoid using ex-post screening methods to identify careless respondents**

*Topic 6: Comparisons*

- 42. **Track participant IDs when available**
- 43. **Compare reliability estimates of your OPD sample to relevant comparison samples**
- 44. **Capture IP addresses and reject responses from the same IP address**

*Topic 7: Managing Relationships*

- 45. **Thank workers and embed tasks with “meaning”—explain meaning of tasks they will complete**
- 46. **Monitor discussion boards for chatter about your study**
- 47. **Avoid experiments involving deception and consider guaranteeing you will not use deception in your studies**
- 48. Review formal OPP-specific guidelines and act ethically by, for example, clearly identifying yourself to participants, providing reasonable time estimates, paying as soon as possible, and maintaining lines of communication
- 49. Read forums to get a sense of OP participants and introduce yourself to the OP community via web forums if possible
- 50. Provide justifiable and concrete reasons to a participant if rejecting that participant's work

*Topic 8: Compensation*

- 51. **Pay a “fair” wage**
  - 52. **Pay an appealing—but not overly appealing—wage**
  - 53. **Pay a low wage—or at least avoid enticing monetary incentives**
  - 54. **Pay at least median reservation wage (e.g., \$1.38/hour)**
  - 55. **Pay U.S. Federal minimum wage (i.e., \$7.25/hour)**
  - 56. **Pay participants whatever going market rate is (e.g., \$2/hour)**
  - 57. Increase compensation when follow-up timeframes increase or more effort is required on the part of the participant
  - 58. **Use a “hook” strategy where difficult upfront tasks that pay more must be completed before easy tasks are offered (total payment forfeited if entire study is not completed)**
- 

*Note:* **Bolded** best practices represent those in which there is disagreement.



Recommendation by Topic

Topic 9: Reporting

- 59. Be transparent with regard to materials used in your study and the methods used to recruit participants
- 60. Report the amount of compensation participants received and the average study completion time
- 61. If using attention checks or similar indicators to screen for quality, report results both before and after screening techniques were applied
- 62. Collect and report the following: demographics; compensation; the participant’s country of residence; and how non-naïveté was handled

Topic 10: Institutional Responsibilities

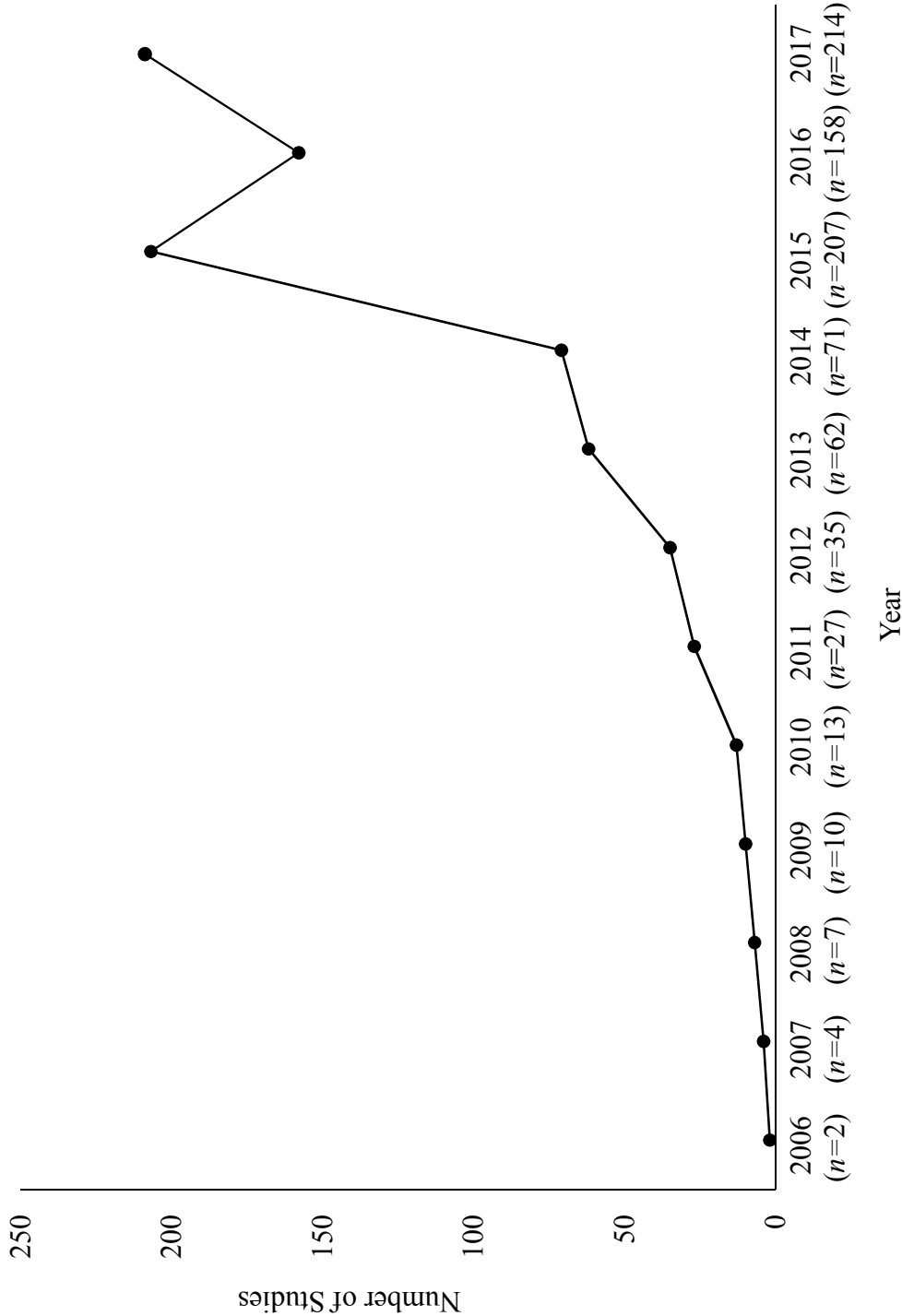
- 63. Journals should offer clear instructions to authors on reporting of survey response rates and how to address nonresponse
- 64. **Reviewers and editors should create standards for “low quality” data screening and reporting**
- 65. **Journals should require authors to report pay and the average length of the study**
- 66. **Universities/departments should provide funding to pay participants at least minimum wage**
- 67. **Internal Review Boards should consider fair pay**

Note: **Bolded** best practices represent those in which there is disagreement.

ONLINE PANEL DATA IN MANAGEMENT RESEARCH

Figure 1

OPD Study Count by Year



ONLINE PANEL DATA IN MANAGEMENT

1

SUPPLEMENTAL MATERIALS

COMPREHENSIVE LIST OF ARTICLES INCLUDED IN REVIEW

Adam, H., & Shirako, A. 2013. Not all anger is created equal: The impact of the expresser's culture on the social effects of anger in negotiations. *Journal of Applied Psychology*, 98: 785-798.

Adam, H., Obodaru, O., & Galinsky, A. D. 2015. Who you are is where you are: Antecedents and consequences of locating the self in the brain or the heart. *Organizational Behavior and Human Decision Processes*, 128: 74-83.

Allen, D. G., Peltokorpi, V., & Rubenstein, A. L. 2016. When "embedded" means "stuck": Moderating effects of job embeddedness in adverse work environments. *The Journal of Applied Psychology*, 101: 1670-1686.

Ali, A. A., Lyons, B. J., & Ryan, A. M. 2017. Managing a perilous stigma: Ex-offenders' use of reparative impression management tactics in hiring contexts. *Journal of Applied Psychology*, 102: 1271-1285.

Andersson, O., Huysentruyt, M., Miettinen, T., & Stephan, U. 2016. Person–Organization Fit and Incentives: A Causal Test. *Management Science*, 63: 73-96.

Anicich, E. M., Fast, N. J., Halevy, N., & Galinsky, A. D. 2015. When the bases of social hierarchy collide: Power without status drives interpersonal conflict. *Organization Science*, 27: 123-140.

Antonakis, J., & House, R. J. 2014. Instrumental leadership: Measurement and extension of transformational–transactional leadership theory. *The Leadership Quarterly*, 25: 746-771.

## ONLINE PANEL DATA IN MANAGEMENT

2

- Arnold, K. A., Connelly, C. E., Gellatly, I. R., Walsh, M. M., & Withey, M. J. 2017. Using a pattern-oriented approach to study leaders: Implications for burnout and perceived role demand. *Journal of Organizational Behavior*, 38: 1038-1056.
- Avery, D. R., McKay, P. F., & Volpone, S. D. 2016. Blaming the building: How venue quality influences consumer bias against stigmatized leaders. *Journal of Applied Psychology*, 101: 1111-1121.
- Avery, D. R., McKay, P. F., Volpone, S. D., & Malka, A. 2015. Are companies beholden to bias? The impact of leader race on consumer purchasing behavior. *Organizational Behavior and Human Decision Processes*, 127: 85-102.
- Awanis, S., Schlegelmilch, B. B., & Cui, C. C. 2017. Asia's materialists: Reconciling collectivism and materialism. *Journal of International Business Studies*, 48: 964-991.
- Ballinger, G. A., Lehman, D. W., & Schoorman, F. D. 2010. Leader-member exchange and turnover before and after succession events. *Organizational Behavior and Human Decision Processes*, 113: 25-36.
- Banks, G. C., Pollack, J. M., Bochantin, J. E., Kirkman, B. L., Whelpley, C. E., & O'Boyle, E. H. 2016. Management's science-practice gap: A grand challenge for all stakeholders. *Academy of Management Journal*, 59: 2205-2231.
- Barasch, A., Levine, E. E., & Schweitzer, M. E. 2016. Bliss is ignorance: How the magnitude of expressed happiness influences perceived naiveté and interpersonal exploitation. *Organizational Behavior and Human Decision Processes*, 137: 184-206.
- Barber, L. K., & Budnick, C. J. 2015. Turning molehills into mountains: Sleepiness increases workplace interpretive bias. *Journal of Organizational Behavior*, 36: 360-381.

ONLINE PANEL DATA IN MANAGEMENT

3

Barclay, L. J., & Kiefer, T. 2014. Approach or avoid? Exploring overall justice and the differential effects of positive and negative emotions. *Journal of Management*, 40: 1857-1898.

Barnes, C. M., Miller, J. A., & Bostock, S. 2017. Helping employees sleep well: Effects of cognitive behavioral therapy for insomnia on work outcomes. *Journal of Applied Psychology*, 102: 104-113.

Barnes, C. M., Schaubroeck, J., Huth, M., & Ghumman, S. 2011. Lack of sleep and unethical conduct. *Organizational Behavior and Human Decision Processes*, 115: 169-180.

Basu, S., & Savani, K. 2017. Choosing one at a time? Presenting options simultaneously helps people make more optimal decisions than presenting options sequentially. *Organizational Behavior and Human Decision Processes*, 139: 76-91.

Baucells, M., & Bellezza, S. 2016. Temporal profiles of instant utility during anticipation, event, and recall. *Management Science*, 63: 729-748.

Bauman, C. W., Tost, L. P., & Ong, M. 2016. Blame the shepherd not the sheep: Imitating higher-ranking transgressors mitigates punishment for unethical behavior. *Organizational Behavior and Human Decision Processes*, 137: 123-141.

Belmi, P., & Neale, M. 2014. Mirror, mirror on the wall, who's the fairest of them all? Thinking that one is attractive increases the tendency to support inequality. *Organizational Behavior and Human Decision Processes*, 124: 133-149.

Bendersky, C., & Shah, N. P. 2013. The downfall of extraverts and rise of neurotics: The dynamic process of status allocation in task groups. *Academy of Management Journal*, 56: 387-406.

## ONLINE PANEL DATA IN MANAGEMENT

4

- Bennett, A. A., Gabriel, A. S., Calderwood, C., Dahling, J. J., & Trougakos, J. P. 2016. Better together? Examining profiles of employee recovery experiences. *Journal of Applied Psychology*, 101: 1635-1654.
- Berg, J. M. 2016. Balancing on the creative highwire: Forecasting the success of novel ideas in organizations. *Administrative Science Quarterly*, 61: 433-468.
- Bhargave, R., Chakravarti, A., & Guha, A. 2015. Two-stage decisions increase preference for hedonic options. *Organizational Behavior and Human Decision Processes*, 130: 123-135.
- Bianchi, E. C. 2013. The bright side of bad times: The affective advantages of entering the workforce in a recession. *Administrative Science Quarterly*, 58: 587-623.
- Bianchi, E. C., & Brockner, J. 2012. In the eyes of the beholder? The role of dispositional trust in judgments of procedural and interactional fairness. *Organizational Behavior and Human Decision Processes*, 118: 46-59.
- Blader, S. L., Wiesenfeld, B. M., Fortin, M., & Wheeler-Smith, S. L. 2013. Fairness lies in the heart of the beholder: How the social emotions of third parties influence reactions to injustice. *Organizational Behavior and Human Decision Processes*, 121: 62-80.
- Bøggild, T., & Laustsen, L. 2016. An intra-group perspective on leader preferences: Different risks of exploitation shape preferences for leader facial dominance. *The Leadership Quarterly*, 27: 820-837.
- Bohns, V. K., Newark, D. A., & Xu, A. Z. 2016. For a dollar, would you...? How we think money affects compliance with our requests. *Organizational Behavior and Human Decision Processes*, 134: 45-62.

## ONLINE PANEL DATA IN MANAGEMENT

5

- Bono, J. E., Braddy, P. W., Liu, Y., Gilbert, E. K., Fleenor, J. W., Quast, L. N., & Center, B. A. 2016. Dropped on the way to the top: Gender and managerial derailment. *Personnel Psychology*, 70: 729-768.
- Bourdage, J. S., Wiltshire, J., & Lee, K. 2015. Personality and workplace impression management: Correlates and implications. *Journal of Applied Psychology*, 100: 537-546.
- Bowles, H. R., Babcock, L., & Lai, L. 2007. Social incentives for gender differences in the propensity to initiate negotiations: Sometimes it does hurt to ask. *Organizational Behavior and human decision Processes*, 103: 84-103.
- Brady, D. L., Brown, D. J., & Liang, L. H. 2017. Moving beyond assumptions of deviance: The reconceptualization and measurement of workplace gossip. *Journal of Applied Psychology*, 102: 1-25.
- Brands, R. A., Menges, J. I., & Kilduff, M. 2015. The leader-in-social-network schema: Perceptions of network structure affect gendered attributions of charisma. *Organization Science*, 26: 1210-1225.
- Brands, R. A., & Fernandez-Mateo, I. 2017. Leaning out: How negative recruitment experiences shape women's decisions to compete for executive roles. *Administrative Science Quarterly*, 62: 405-442.
- Brebels, L., De Cremer, D., & Van Dijke, M. 2014. Using self-definition to predict the influence of procedural justice on organizational-, interpersonal-, and job/task-oriented citizenship behavior. *Journal of Management*, 40: 731-763.
- Brescoll, V. L. 2011. Who takes the floor and why: Gender, power, and volubility in organizations. *Administrative Science Quarterly*, 56: 622-641.

## ONLINE PANEL DATA IN MANAGEMENT

6

- Brinke, L., & Adams, G. S. 2015. Saving face? When emotion displays during public apologies mitigate damage to organizational performance. *Organizational Behavior and Human Decision Processes*, 130: 1-12.
- Brooks, A. W., Gino, F., & Schweitzer, M. E. 2015. Smart people ask for my advice: Seeking advice boosts perceptions of competence. *Management Science*, 61: 1421-1435.
- Brooks, A. W., Schroeder, J., Risen, J. L., Gino, F., Galinsky, A. D., Norton, M. I., & Schweitzer, M. E. 2016. Don't stop believing: Rituals improve performance by decreasing anxiety. *Organizational Behavior and Human Decision Processes*, 137: 71-85.
- Brown, G., & Robinson, S. L. 2011. Reactions to territorial infringement. *Organization Science*, 22: 210-224.
- Buell, R. W., Kim, T., & Tsay, C. J. 2016. Creating reciprocal value through operational transparency. *Management Science*, 63: 1673-1695.
- Burbano, V. C. 2016. Social responsibility messages and worker wage requirements: Field experimental evidence from online labor marketplaces. *Organization Science*, 27: 1010-1028.
- Burris, E. R., Rockmann, K. W., & Kimmons, Y. S. 2017. The Value of Voice to Managers: Employee Identification and the Content of Voice. *Academy of Management Journal*, 60: 2099-2125.
- Burton, J. P., Taylor, S. G., & Barber, L. K. 2014. Understanding internal, external, and relational attributions for abusive supervision. *Journal of Organizational Behavior*, 35: 871-891.



ONLINE PANEL DATA IN MANAGEMENT

7

Buser, T., & Dreber, A. 2015. The flipside of comparative payment schemes. *Management Science*, 62: 2626-2638.

Byrne, A., Dionisi, A. M., Barling, J., Akers, A., Robertson, J., Lys, R., & Dupré, K. 2014. The depleted leader: The influence of leaders' diminished psychological resources on leadership behaviors. *The Leadership Quarterly*, 25: 344-357.

Byrne, Z. S., Peters, J. M., & Weston, J. W. 2016. The struggle with employee engagement: Measures and construct clarification using five samples. *The Journal of Applied Psychology*, 101: 1201-1227.

Caleo, S. 2016. Are organizational justice rules gendered? Reactions to men's and women's justice violations. *Journal of Applied Psychology*, 101: 1422-1436.

Cameron, A. F., & Webster, J. 2011. Relational outcomes of multicomcommunicating: Integrating incivility and social exchange perspectives. *Organization Science*, 22: 754-771.

Carlson, D., Ferguson, M., Hunter, E., & Whitten, D. 2012. Abusive supervision and work-family conflict: The path through emotional labor and burnout. *The Leadership Quarterly*, 23: 849-859.

Carlson, D. S., Ferguson, M., Perrewé, P. L., & Whitten, D. 2011. The fallout from abusive supervision: An examination of subordinates and their partners. *Personnel Psychology*, 64: 937-961.

Carlson, D. S., Hunter, E. M., Ferguson, M., & Whitten, D. 2014. Work-family enrichment and satisfaction: Mediating processes and relative impact of originating and receiving domains. *Journal of Management*, 40: 845-865.

## ONLINE PANEL DATA IN MANAGEMENT

8

- Carmeli, A., Brammer, S., Gomes, E., & Tarba, S. Y. 2017. An organizational ethic of care and employee involvement in sustainability-related behaviors: A social identity perspective. *Journal of Organizational Behavior*, 38: 1380-1395.
- Carpenter, N. C., Rangel, B., Jeon, G., & Cottrell, J. 2017. Are supervisors and coworkers likely to witness employee counterproductive work behavior? An investigation of observability and self-observer convergence. *Personnel Psychology*, 70: 843-889.
- Carton, A. M., Murphy, C., & Clark, J. R. 2014. A blurry vision of the future: How leader rhetoric about ultimate goals influences performance. *Academy of Management Journal*, 57: 1544-1570.
- Casciaro, T., Gino, F., & Kouchaki, M. 2014. The contaminating effects of building instrumental ties how networking can make us feel dirty. *Administrative Science Quarterly*, 59: 705-735.
- Cavanaugh, L. A., Gino, F., & Fitzsimons, G. J. 2015. When doing good is bad in gift giving: Mis-predicting appreciation of socially responsible gifts. *Organizational Behavior and Human Decision Processes*, 131: 178-189.
- Caza, A., Zhang, G., Wang, L., & Bai, Y. 2015. How do you really feel? Effect of leaders' perceived emotional sincerity on followers' trust. *The Leadership Quarterly*, 26: 518-531.
- Chang, J. W., Chow, R. M., & Woolley, A. W. 2017. Effects of inter-group status on the pursuit of intra-group status. *Organizational Behavior and Human Decision Processes*, 139: 1-17.
- Chen, M., Chen, C. C., & Sheldon, O. J. 2016. Relaxing moral reasoning to win: How organizational identification relates to unethical pro-organizational behavior. *Journal of Applied Psychology*, 101: 1082-1096.

ONLINE PANEL DATA IN MANAGEMENT

Cheng, C. Y., Jiang, D. Y., Cheng, B. S., Riley, J. H., & Jen, C. K. 2015. When do subordinates commit to their supervisors? Different effects of perceived supervisor integrity and support on Chinese and American employees. *The Leadership Quarterly*, 26: 81-97.

Christian, M. S., Eisenkraft, N., & Kapadia, C. 2015. Dynamic associations among somatic complaints, human energy, and discretionary behaviors: Experiences with pain fluctuations at work. *Administrative Science Quarterly*, 60: 66-102.

Chua, R. Y. 2013. The costs of ambient cultural disharmony: Indirect intercultural conflicts in social environment undermine creativity. *Academy of Management Journal*, 56: 1545-1577.

Chua, R. Y. 2015. Innovating at cultural crossroads how multicultural social networks promote idea flow and creativity. *Journal of Management*, 44: 1119-1146.

Coffman, K. B., Coffman, L. C., & Ericson, K. M. M. 2016. The size of the LGBT population and the magnitude of antigay sentiment are substantially underestimated. *Management Science*, 63: 3168-3186.

Cojuharenco, I., Patient, D., & Bashshur, M. R. 2011. Seeing the “forest” or the “trees” of organizational justice: Effects of temporal perspective on employee concerns about unfair treatment at work. *Organizational Behavior and Human Decision Processes*, 116: 17-31.

Colbert, A. E., Bono, J. E., & Purvanova, R. K. 2016. Flourishing via workplace relationships: Moving beyond instrumental support. *Academy of Management Journal*, 59: 1199-1223.

Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. 2012. Knowledge hiding in organizations. *Journal of Organizational Behavior*, 33: 64-88.

## ONLINE PANEL DATA IN MANAGEMENT

10

- 1  
2  
3 Courtright, S. H., Gardner, R. G., Smith, T. A., McCormick, B. W., & Colbert, A. E. 2016. My  
4 family made me do it: A cross-domain, self-regulatory perspective on antecedents to  
5 abusive supervision. *Academy of Management Journal*, 59: 1630-1652.  
6  
7  
8  
9  
10 Credé, M., & Harms, P. D. 2015. 25 years of higher-order confirmatory factor analysis in the  
11 organizational sciences: A critical review and development of reporting  
12 recommendations. *Journal of Organizational Behavior*, 36: 845-872.  
13  
14  
15  
16  
17 Crilly, D., Ni, N., & Jiang, Y. 2016. Do-no-harm versus do-good social responsibility:  
18 Attributional thinking and the liability of foreignness. *Strategic Management Journal*, 37:  
19 1316-1329.  
20  
21  
22  
23  
24 Crilly, D. 2017. Time and space in strategy discourse: Implications for intertemporal  
25 choice. *Strategic Management Journal*, 38: 2370-2389.  
26  
27  
28  
29 Crossley, C. D., Bennett, R. J., Jex, S. M., & Burnfield, J. L. 2007. Development of a global  
30 measure of job embeddedness and integration into a traditional model of voluntary  
31 turnover. *Journal of Applied Psychology*, 92: 1031-1042.  
32  
33  
34  
35 Cryder, C. E., Loewenstein, G., & Scheines, R. 2013. The donor is in the details. *Organizational*  
36 *Behavior and Human Decision Processes*, 120: 15-23.  
37  
38  
39  
40 Dahl, D. W., Fuchs, C., & Schreier, M. 2014. Why and when consumers prefer products of user-  
41 driven firms: A social identification account. *Management Science*, 61: 1978-1988.  
42  
43  
44  
45 Dahling, J. J., Wiley, S., Fishman, Z. A., & Loihle, A. 2016. A stake in the fight: When do  
46 heterosexual employees resist organizational policies that deny marriage equality to LGB  
47 peers? *Organizational Behavior and Human Decision Processes*, 132: 1-15.  
48  
49  
50  
51 Dahling, J. J., & Gutworth, M. B. 2017. Loyal rebels? A test of the normative conflict model of  
52 constructive deviance. *Journal of Organizational Behavior*, 38: 1167-1182.  
53  
54  
55  
56  
57  
58  
59  
60

Dai, H., Milkman, K. L., & Riis, J. 2014. The fresh start effect: temporal landmarks motivate aspirational behavior. *Management Science*, 60: 2563-2582.

Daniels, D. P., Neale, M. A., & Greer, L. L. 2017. Spillover bias in diversity judgment. *Organizational Behavior and Human Decision Processes*, 139: 92-105.

Danilov, A., & Sliwka, D. 2016. Can contracts signal social norms? Experimental evidence. *Management Science*, 63: 459-476.

Dawson, K. M., O'Brien, K. E., & Beehr, T. A. 2016. The role of hindrance stressors in the job demand-control-support model of occupational stress: A proposed theory revision. *Journal of Organizational Behavior*, 37: 397-415.

DeCelles, K. A., DeRue, D. S., Margolis, J. D., & Ceranic, T. L. 2012. Does power corrupt or enable? When and why power facilitates self-interested behavior. *Journal of Applied Psychology*, 97: 681-689.

De Dreu, C. K., & Nauta, A. 2009. Self-interest and other-orientation in organizational behavior: implications for job performance, prosocial behavior, and personal initiative. *Journal of Applied Psychology*, 94: 913-926.

De Langhe, B., & Puntoni, S. 2014. Bang for the buck: Gain-loss ratio as a driver of judgment and choice. *Management Science*, 61: 1137-1163.

DeKay, M. L., Miller, S. A., Schley, D. R., & Erford, B. M. 2014. Proleader and antitrailer information distortion and their effects on choice and postchoice memory. *Organizational Behavior and Human Decision Processes*, 125: 134-150.

Derfler-Rozin, R., Moore, C., & Staats, B. R. 2016. Reducing organizational rule breaking through task variety: how task design supports deliberative thinking. *Organization Science*, 27: 1361-1379.

- Desai, S. D., & Kouchaki, M. 2015. Work-report formats and overbilling: how unit-reporting vs. cost-reporting increases accountability and decreases overbilling. *Organizational Behavior and Human Decision Processes*, 130: 79-88.
- Desai, S. D., & Kouchaki, M. 2017. Moral symbols: A necklace of garlic against unethical requests. *Academy of Management Journal*, 60: 7-28.
- Desmet, P. T., Hoogervorst, N., & Van Dijke, M. 2015. Prophets vs. profits: How market competition influences leaders' disciplining behavior towards ethical transgressions. *The Leadership Quarterly*, 26: 1034-1050.
- DeVoe, S. E., & Pfeffer, J. 2007. When time is money: The effect of hourly payment on the evaluation of time. *Organizational Behavior and Human Decision Processes*, 104: 1-13.
- Diamantopoulos, A., Florack, A., Halkias, G., & Palcu, J. 2017. Explicit versus implicit country stereotypes as predictors of product preferences: Insights from the stereotype content model. *Journal of International Business Studies*, 48: 1023-1036.
- Dillon, R. L., Tinsley, C. H., Madsen, P. M., & Rogers, E. W. 2016. Organizational correctives for improving recognition of near-miss events. *Journal of Management*, 42: 671-697.
- Dionisi, A. M., & Barling, J. 2015. Spillover and crossover of sex-based harassment from work to home: Supervisor gender harassment affects romantic relationship functioning via targets' anger. *Journal of Organizational Behavior*, 36: 196-215.
- Direnzo, M. S., Greenhaus, J. H., & Weer, C. H. 2015. Relationship between protean career orientation and work-life balance: A resource perspective. *Journal of Organizational Behavior*, 36: 538-560.

Djurdjevic, E., Stoverink, A. C., Klotz, A. C., Koopman, J., da Motta Veiga, S. P., Yam, K. C., & Chiang, J. T. J. 2017. Workplace status: The development and validation of a scale. *Journal of Applied Psychology*, 102: 1124-1147.

Dong, Y., Liao, H., Chuang, A., Zhou, J., & Campbell, E. M. 2015. Fostering employee service creativity: Joint effects of customer empowering behaviors and supervisory empowering leadership. *Journal of Applied Psychology*, 100: 1364-1380.

Dong, Y., Bartol, K. M., Zhang, Z. X., & Li, C. 2017. Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership. *Journal of Organizational Behavior*, 38: 439-458.

Dragoni, L., Park, H., Soltis, J., & Forte-Trammell, S. 2014. Show and tell: How supervisors facilitate leader development among transitioning leaders. *Journal of Applied Psychology*, 99: 66-86.

Duguid, M. M., & Thomas-Hunt, M. C. 2015. Condoning stereotyping? How awareness of stereotyping prevalence impacts expression of stereotypes. *Journal of Applied Psychology*, 100: 343-359.

Dumas, T. L., Phillips, K. W., & Rothbard, N. P. 2013. Getting closer at the company party: Integration experiences, racial dissimilarity, and workplace relationships. *Organization Science*, 24: 1377-1401.

Dutta, S., & Rao, H. 2015. Infectious diseases, contamination rumors and ethnic violence: Regimental mutinies in the Bengal Native Army in 1857 India. *Organizational Behavior and Human Decision Processes*, 129: 36-47.

## ONLINE PANEL DATA IN MANAGEMENT

14

- Eberly, M. B., Holley, E. C., Johnson, M. D., & Mitchell, T. R. 2017. It's not me, it's not you, it's us! An empirical examination of relational attributions. *Journal of Applied Psychology*, 102: 711-731.
- Edelman, B., & Larkin, I. 2014. Social comparisons and deception across workplace hierarchies: Field and experimental evidence. *Organization Science*, 26: 78-98.
- Effron, D. A., & Miller, D. T. 2015. Do as I say, not as I've done: Suffering for a misdeed reduces the hypocrisy of advising others against it. *Organizational Behavior and Human Decision Processes*, 131: 16-32.
- Effron, D. A., Lucas, B. J., & O'Connor, K. 2015. Hypocrisy by association: When organizational membership increases condemnation for wrongdoing. *Organizational Behavior and Human Decision Processes*, 130: 147-159.
- Egan, M., Daly, M., Delaney, L., Boyce, C. J., & Wood, A. M. 2017. Adolescent conscientiousness predicts lower lifetime unemployment. *Journal of Applied Psychology*, 1024, 700-709.
- Ellingson, J. E., Tews, M. J., & Dachner, A. M. 2016. Constituent attachment and voluntary turnover in low-wage/low-skill service work. *Journal of Applied Psychology*, 101: 129-140.
- Erdogan, B., Bauer, T. N., & Walter, J. 2015. Deeds that help and words that hurt: Helping and gossip as moderators of the relationship between leader-member exchange and advice network centrality. *Personnel Psychology*, 68: 185-214.
- Eriksson, K., Strimling, P., & Coultas, J. C. 2015. Bidirectional associations between descriptive and injunctive norms. *Organizational Behavior and Human Decision Processes*, 129: 59-69.



Evers, E. R., Inbar, Y., Blanken, I., & Oosterwijk, L. D. 2017. When do people prefer carrots to sticks? A robust “matching effect” in policy evaluation. *Management Science*, 63: 4261-4276.

Fast, N. J., Sivanathan, N., Mayer, N. D., & Galinsky, A. D. 2012. Power and overconfident decision-making. *Organizational Behavior and Human Decision Processes*, 117: 249-260.

Fehr, R., Yam, K. C., He, W., Chiang, J. T. J., & Wei, W. 2017. Polluted work: A self-control perspective on air pollution appraisals, organizational citizenship, and counterproductive work behavior. *Organizational Behavior and Human Decision Processes*, 143: 98-110.

Ferguson, M., Carlson, D., & Kacmar, K. M. 2015. Flexing work boundaries: The spillover and crossover of workplace support. *Personnel Psychology*, 68: 581-614.

Ferguson, M., Carlson, D., Boswell, W., Whitten, D., Butts, M. M., & Kacmar, K. M. 2016. Tethered to work: A family systems approach linking mobile device use to turnover intentions. *Journal of Applied Psychology*, 101: 520-534.

Fernbach, P. M., Hagmayer, Y., & Sloman, S. A. 2014. Effort denial in self-deception. *Organizational Behavior and Human Decision Processes*, 123: 1-8.

Ferris, D. L., Johnson, R. E., Rosen, C. C., Djurdjevic, E., Chang, C. H. D., & Tan, J. A. 2013. When is success not satisfying? Integrating regulatory focus and approach/avoidance motivation theories to explain the relation between core self-evaluation and job satisfaction. *Journal of Applied Psychology*, 98: 342-353.

Fonti, F., Maoret, M., & Whitbred, R. 2017. Free-riding in multi-party alliances: The role of perceived alliance effectiveness and peers' collaboration in a research consortium. *Strategic Management Journal*, 38: 363-383.

## ONLINE PANEL DATA IN MANAGEMENT

16

- 1  
2  
3 Foulk, T. A., & Long, D. M. 2016. Impressed by impression management: Newcomer reactions  
4  
5 to ingratiated supervisors. *Journal of Applied Psychology*, 101: 1487-1497.  
6  
7  
8 Fragale, A. R., Sumanth, J. J., Tiedens, L. Z., & Northcraft, G. B. 2012. Appeasing equals:  
9  
10 Lateral deference in organizational communication. *Administrative Science Quarterly*,  
11  
12 57: 373-406.  
13  
14  
15 Franke, N., Keinz, P., & Klausberger, K. 2013. "Does this sound like a fair deal?": Antecedents  
16  
17 and consequences of fairness expectations in the individual's decision to participate in  
18  
19 firm innovation. *Organization Science*, 24: 1495-1516.  
20  
21  
22 Ganegoda, D. B., & Folger, R. 2015. Framing effects in justice perceptions: Prospect theory and  
23  
24 counterfactuals. *Organizational Behavior and Human Decision Processes*, 126: 27-36.  
25  
26  
27 Gehman, J., & Grimes, M. 2017. Hidden badge of honor: how contextual distinctiveness affects  
28  
29 category promotion among certified B corporations. *Academy of Management*  
30  
31 *Journal*, 60: 2294-2320.  
32  
33  
34 Gineikiene, J., & Diamantopoulos, A. 2017. I hate where it comes from but I still buy it:  
35  
36 Countervailing influences of animosity and nostalgia. *Journal of International Business*  
37  
38 *Studies*, 48: 992-1008.  
39  
40  
41 Gladstone, E., & O'Connor, K. M. 2014. A counterpart's feminine face signals cooperativeness  
42  
43 and encourages negotiators to compete. *Organizational Behavior and Human Decision*  
44  
45 *Processes*, 125: 18-25.  
46  
47  
48 Gneezy, U., Imas, A., & Madarász, K. 2014. Conscience accounting: Emotion dynamics and  
49  
50 social behavior. *Management Science*, 60: 2645-2658.  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Goncalo, J. A., Chatman, J. A., Duguid, M. M., & Kennedy, J. A. 2015. Creativity from constraint? How the political correctness norm influences creativity in mixed-sex work groups. *Administrative Science Quarterly*, 60: 1-30.

Greenberg, J., & Mollick, E. 2017. Activist choice homophily and the crowdfunding of female founders. *Administrative Science Quarterly*, 62: 341-374.

Gu, J., McFerran, B., Aquino, K., & Kim, T. G. 2014. What makes affirmative action-based hiring decisions seem unfair? A test of an ideological explanation for fairness judgments. *Journal of Organizational Behavior*, 35: 722-745.

Guarana, C. L., & Hernandez, M. 2016. Identified ambivalence: When cognitive conflicts can help individuals overcome cognitive traps. *Journal of Applied Psychology*, 101: 1013-1029.

Guillén, L., Mayo, M., & Korotov, K. 2015. Is leadership a part of me? A leader identity approach to understanding the motivation to lead. *The Leadership Quarterly*, 26: 802-820.

Gupta, N., Ganster, D. C., & Kepes, S. 2013. Assessing the validity of sales self-efficacy: A cautionary tale. *Journal of Applied Psychology*, 98: 690-700.

Hadley, C. N., Pittinsky, T. L., Sommer, S. A., & Zhu, W. 2011. Measuring the efficacy of leaders to assess information and make decisions in a crisis: The C-LEAD scale. *The Leadership Quarterly*, 22: 633-648.

Hahl, O. 2016. Turning back the clock in baseball: The increased prominence of extrinsic rewards and demand for authenticity. *Organization Science*, 27: 929-953.

Hanek, K. J., Garcia, S. M., & Tor, A. 2016. Gender and competitive preferences: The role of competition size. *Journal of Applied Psychology*, 101: 1122-1133.

## ONLINE PANEL DATA IN MANAGEMENT

18

- 1  
2  
3 Haran, U. 2013. A person–organization discontinuity in contract perception: Why corporations  
4  
5 can get away with breaking contracts but individuals cannot. *Management Science*, 59:  
6  
7 2837-2853.  
8  
9
- 10 Hardisty, D. J., & Pfeffer, J. 2016. Intertemporal uncertainty avoidance: When the future is  
11  
12 uncertain, people prefer the present, and when the present is uncertain, people prefer the  
13  
14 future. *Management Science*, 63: 519-527.  
15  
16
- 17 Harmon, D. J., Kim, P. H., & Mayer, K. J. 2015. Breaking the letter vs. spirit of the law: How  
18  
19 the interpretation of contract violations affects trust and the management of relationships.  
20  
21 *Strategic Management Journal*, 36: 497-517.  
22  
23
- 24 Harold, C. M., & Holtz, B. C. 2015. The effects of passive leadership on workplace  
25  
26 incivility. *Journal of Organizational Behavior*, 36: 16-38.  
27  
28
- 29 Harold, C. M., Oh, I. S., Holtz, B. C., Han, S., & Giacalone, R. A. 2016. Fit and frustration as  
30  
31 drivers of targeted counterproductive work behaviors: A multifoci perspective. *The*  
32  
33 *Journal of Applied Psychology*, 101: 1513-1535.  
34  
35
- 36 Harris, M. M., Anseel, F., & Lievens, F. 2008. Keeping up with the Joneses: A field study of the  
37  
38 relationships among upward, lateral, and downward comparisons and pay level  
39  
40 satisfaction. *Journal of Applied Psychology*, 93: 665-673.  
41  
42
- 43 Hasan, S., Ferguson, J. P., & Koning, R. 2015. The lives and deaths of jobs: Technical  
44  
45 interdependence and survival in a job structure. *Organization Science*, 26: 1665-1681.  
46  
47
- 48 Hausknecht, J. P., Sturman, M. C., & Roberson, Q. M. 2011. Justice as a dynamic construct:  
49  
50 effects of individual trajectories on distal work outcomes. *Journal of Applied*  
51  
52 *Psychology*, 96: 872-880.  
53  
54  
55  
56  
57  
58  
59  
60

Hekman, D. R., Johnson, S. K., Foo, M. D., & Yang, W. 2017. Does diversity-valuing behavior result in diminished performance ratings for non-white and female leaders?. *Academy of Management Journal*, 60: 771-797.

Hernandez, M., Avery, D. R., Tonidandel, S., Hebl, M. R., Smith, A. N., & McKay, P. F. 2016. The role of proximal social contexts: Assessing stigma-by-association effects on leader appraisals. *Journal of Applied Psychology*, 101: 68-85.

Hershcovis, M. S., & Barling, J. 2010. Comparing Victim Attributions and Outcomes for Workplace Aggression and Sexual Harassment. *Journal of Applied Psychology*, 95: 874-888.

Hershcovis, M. S., & Bhatnagar, N. 2017. When fellow customers behave badly: Witness reactions to employee mistreatment by customers. *Journal of Applied Psychology*, 102: 1528-1544.

Hershcovis, M. S., Neville, L., Reich, T. C., Christie, A. M., Cortina, L. M., & Shan, J. V. 2017. Witnessing wrongdoing: The effects of observer power on incivility intervention in the workplace. *Organizational Behavior and Human Decision Processes*, 142: 45-57.

Hershcovis, M. S., Ogunfowora, B., Reich, T. C., & Christie, A. M. 2017. Targeted workplace incivility: The roles of belongingness, embarrassment, and power. *Journal of Organizational Behavior*, 38: 1057-1075.

Hershfield, H. E., Cohen, T. R., & Thompson, L. 2012. Short horizons and tempting situations: Lack of continuity to our future selves leads to unethical decision making and behavior. *Organizational Behavior and Human Decision Processes*, 117: 298-310.

## ONLINE PANEL DATA IN MANAGEMENT

20

- Hertel, G., Rauschenbach, C., Thielgen, M. M., & Krumm, S. 2015. Are older workers more active copers? Longitudinal effects of age-contingent coping on strain at work. *Journal of Organizational Behavior*, 36: 514-537.
- Hewlin, P. F., Dumas, T. L., & Burnett, M. F. 2017. To thine own self be true? Facades of conformity, values incongruence, and the moderating impact of leader integrity. *Academy of Management Journal*, 60: 178-199.
- Hideg, I., & Ferris, D. L. 2017. Dialectical thinking and fairness-based perspectives of affirmative action. *Journal of Applied Psychology*, 102: 782-801.
- Hildreth, J. A. D., Gino, F., & Bazerman, M. 2016. Blind loyalty? When group loyalty makes us see evil or engage in it. *Organizational Behavior and Human Decision Processes*, 132: 16-36.
- Hillebrandt, A., & Barclay, L. J. 2017. Comparing integral and incidental emotions: Testing insights from emotions as social information theory and attribution theory. *Journal of Applied Psychology*, 102: 732-752.
- Ho, V. T., & Kong, D. T. 2015. Exploring the signaling function of idiosyncratic deals and their interaction. *Organizational Behavior and Human Decision Processes*, 131: 149-161.
- Holtz, B. C. 2015. From first impression to fairness perception: Investigating the impact of initial trustworthiness beliefs. *Personnel Psychology*, 68: 499-546.
- Holtz, B. C., & Harold, C. M. 2013. Effects of leadership consideration and structure on employee perceptions of justice and counterproductive work behavior. *Journal of Organizational Behavior*, 34: 492-519.
- Holtz, B. C., & Harold, C. M. 2013. Interpersonal justice and deviance the moderating effects of interpersonal justice values and justice orientation. *Journal of Management*, 39: 339-365.

Howell, T. M., Harrison, D. A., Burris, E. R., & Detert, J. R. 2015. Who gets credit for input? Demographic and structural status cues in voice recognition. *Journal of Applied Psychology*, 100: 1765-1784.

Huang, J. L., Cropanzano, R., Li, A., Shao, P., Zhang, X.-a., & Li, Y. 2017. Employee conscientiousness, agreeableness, and supervisor justice rule compliance: A three-study investigation. *Journal of Applied Psychology*, 102: 1564-1589.

Huang, L., Gibson, C. B., Kirkman, B. L., & Shapiro, D. L. 2017. When is traditionalism an asset and when is it a liability for team innovation? A two-study empirical examination. *Journal of International Business Studies*, : 693-715.

Huang, L., Gino, F., & Galinsky, A. D. 2015. The highest form of intelligence: Sarcasm increases creativity for both expressers and recipients. *Organizational Behavior and Human Decision Processes*, 131: 162-177.

Huang, S. C., Jin, L., & Zhang, Y. 2017. Step by step: Sub-goals as a source of motivation. *Organizational Behavior and Human Decision Processes*, 141: 1-15.

Huber, J., Viscusi, W. K., & Bell, J. 2008. Reference dependence in iterative choices. *Organizational Behavior and Human Decision Processes*, 106: 143-152.

Imai, L., & Gelfand, M. J. 2010. The culturally intelligent negotiator: The impact of cultural intelligence CQ on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes*, 112: 83-98.

Inesi, M. E. 2010. Power and loss aversion. *Organizational Behavior and Human Decision Processes*, 112: 58-69.

## ONLINE PANEL DATA IN MANAGEMENT

22

- Inesi, M. E., & Cable, D. M. 2015. When accomplishments come back to haunt you: The negative effect of competence signals on women's performance evaluations. *Personnel Psychology*, 68: 615-657.
- Inness, M., LeBlanc, M. M., & Barling, J. 2008. Psychosocial predictors of supervisor-, peer-, subordinate-, and service-provider-targeted aggression. *Journal of Applied Psychology*, 93: 1401-1411.
- Jacquart, P., & Antonakis, J. 2015. When does charisma matter for top-level leaders? Effect of attributional ambiguity. *Academy of Management Journal*, 58: 1051-1074.
- Jang, S. 2017. Cultural brokerage and creative performance in multicultural teams. *Organization Science*, 28: 993-1009.
- Jarnebrant, P., Toubia, O., & Johnson, E. 2009. The silver lining effect: Formal analysis and experiments. *Management Science*, 55: 1832-1841.
- Jia, J. S., Khan, U., & Litt, A. 2015. The effect of self-control on the construction of risk perceptions. *Management Science*, 61: 2259-2280.
- Jiang, L., & Probst, T. M. 2017. The rich get richer and the poor get poorer: Country-and state-level income inequality moderates the job insecurity-burnout relationship. *Journal of Applied Psychology*, 102: 672-681.
- Johnson, R. E., Lanaj, K., & Barnes, C. M. 2014. The good and bad of being fair: Effects of procedural and interpersonal justice behaviors on regulatory resources. *Journal of Applied Psychology*, 99: 635.
- Johnson, R. E., King, D. D., Lin, S. H. J., Scott, B. A., Walker, E. M. J., & Wang, M. 2017. Regulatory focus trickle-down: How leader regulatory focus and behavior shape follower regulatory focus. *Organizational Behavior and Human Decision Processes*, 140: 29-45.



Johnson, R. E., Rosen, C. C., & Djurdjevic, E. 2011. Assessing the impact of common method variance on higher order multidimensional constructs. *Journal of Applied Psychology*, 96: 744-761.

Jones, S. L., & Shah, P. P. 2016. Diagnosing the locus of trust: A temporal perspective for trustor, trustee, and dyadic influences on perceived trustworthiness. *Journal of Applied Psychology*, 101: 392-414.

Juanchich, M., Sirota, M., & Butler, C. L. 2012. The perceived functions of linguistic risk quantifiers and their effect on risk, negativity perception and decision making. *Organizational Behavior and Human Decision Processes*, 118: 72-81.

Judge, T. A., Ilies, R., & Scott, B. A. 2006. Work–family conflict and emotions: Effects at work and at home. *Personnel Psychology*, 59: 779-814.

Jung, E. J., & Lee, S. 2015. The combined effects of relationship conflict and the relational self on creativity. *Organizational Behavior and Human Decision Processes*, 130: 44-57.

Kakkar, H., Tangirala, S., Srivastava, N. K., & Kamdar, D. 2016. The dispositional antecedents of promotive and prohibitive voice. *Journal of Applied Psychology*, 101: 1342-1351.

Kaptein, M. 2008. Developing a measure of unethical behavior in the workplace: A stakeholder perspective. *Journal of Management*, 34: 978-1008.

Kapoutsis, I., Papalexandris, A., Treadway, D. C., & Bentley, J. 2017. Measuring political will in organizations: Theoretical construct development and empirical validation. *Journal of Management*, 43: 2252-2280.

Kaufmann, C., Weber, M., & Haisley, E. 2013. The role of experience sampling and graphical displays on one's investment risk appetite. *Management Science*, 59: 323-340.

- Kausel, E. E., Culbertson, S. S., Leiva, P. I., Slaughter, J. E., & Jackson, A. T. 2015. Too arrogant for their own good? Why and when narcissists dismiss advice. *Organizational Behavior and Human Decision Processes*, 131: 33-50.
- Kennedy, J. A., Anderson, C., & Moore, D. A. 2013. When overconfidence is revealed to others: Testing the status-enhancement theory of overconfidence. *Organizational Behavior and Human Decision Processes*, 122: 266-279.
- Kennedy, J. A., Kray, L. J., & Ku, G. 2017. A social-cognitive approach to understanding gender differences in negotiator ethics: The role of moral identity. *Organizational Behavior and Human Decision Processes*, 138: 28-44.
- Keum, D. D., & See, K. E. 2017. The Influence of Hierarchy on Idea Generation and Selection in the Innovation Process. *Organization Science*, 28: 653-669.
- Kilduff, G. J., Galinsky, A. D., Gallo, E., & Reade, J. J. 2016. Whatever it takes to win: Rivalry increases unethical behavior. *Academy of Management Journal*, 59: 1508-1534.
- Kim, H., Lee, K., & Park, K. 2015. Balancing out feelings of risk by playing it safe: The effect of social networking on subsequent risk judgment. *Organizational Behavior and Human Decision Processes*, 131: 121-131.
- King, S. P., & Bryant, F. B. 2017. The Workplace Intergenerational Climate Scale WICS: A self-report instrument measuring ageism in the workplace. *Journal of Organizational Behavior*, 38: 124-151.
- Kinias, Z., & Sim, J. 2016. Facilitating women's success in business: Interrupting the process of stereotype threat through affirmation of personal values. *Journal of Applied Psychology*, 101: 1585-1597.

Klotz, A. C., & Bolino, M. C. 2016. Saying goodbye: The nature, causes, and consequences of employee resignation styles. *Journal of Applied Psychology*, 101: 1386-1404.

Knight, A. P. 2013. Mood at the midpoint: Affect and change in exploratory search over time in teams that face a deadline. *Organization Science*, 26: 99-118.

Kollée, J. A., Giessner, S. R., & van Knippenberg, D. 2013. Leader evaluations after performance feedback: The role of follower mood. *The Leadership Quarterly*, 24: 203-214.

Koopman, J., Matta, F. K., Scott, B. A., & Conlon, D. E. 2015. Ingratiation and popularity as antecedents of justice: A social exchange and social capital perspective. *Organizational Behavior and Human Decision Processes*, 131: 132-148.

Koopmann, J., Lanaj, K., Bono, J., & Campana, K. 2016. Daily shifts in regulatory focus: The influence of work events and implications for employee well-being. *Journal of Organizational Behavior*, 37: 1293-1316.

Kouchaki, M., & Desai, S. D. 2015. Anxious, threatened, and also unethical: How anxiety makes individuals feel threatened and commit unethical acts. *Journal of Applied Psychology*, 100: 360-375.

Kouchaki, M., & Wareham, J. 2015. Excluded and behaving unethically: Social exclusion, physiological responses, and unethical behavior. *Journal of Applied Psychology*, 100: 547-556.

Kovács, B., Carroll, G. R., & Lehman, D. W. 2013. Authenticity and consumer value ratings: Empirical tests from the restaurant domain. *Organization science*, 25: 458-478.

- Kray, L. J., Kennedy, J. A., & Van Zant, A. B. 2014. Not competent enough to know the difference? Gender stereotypes about women's ease of being misled predict negotiator deception. *Organizational Behavior and Human Decision Processes*, 125: 61-72.
- Kuechle, G., Boulu-Reshef, B., & Carr, S. D. 2016. Prediction- and control- based strategies in entrepreneurship: The role of information. *Strategic Entrepreneurship Journal*, 10: 43-64.
- Lambert, L. S., Tepper, B. J., Carr, J. C., Holt, D. T., & Barelka, A. J. 2012. Forgotten but not gone: an examination of fit between leader consideration and initiating structure needed and received. *Journal of Applied Psychology*, 97: 913-930.
- Lanaj, K., Johnson, R. E., & Barnes, C. M. 2014. Beginning the workday yet already depleted? Consequences of late-night smartphone use and sleep. *Organizational Behavior and Human Decision Processes*, 124: 11-23.
- Lee, A. J., & Ames, D. R. 2017. "I can't pay more" versus "It's not worth more": Divergent effects of constraint and disparagement rationales in negotiations. *Organizational Behavior and Human Decision Processes*, 141: 16-28.
- Lee, J. J., & Gino, F. 2015. Poker-faced morality: Concealing emotions leads to utilitarian decision making. *Organizational Behavior and Human Decision Processes*, 126: 49-64.
- Lee, J. J., Gino, F., & Staats, B. R. 2014. Rainmakers: Why bad weather means good productivity. *Journal of Applied Psychology*, 99: 504-513.
- Lee, K., Scandura, T. A., & Sharif, M. M. 2014. Cultures have consequences: A configural approach to leadership across two cultures. *The Leadership Quarterly*, 25: 692-710.

Lee, S. Y., Pitesa, M., Thau, S., & Pillutla, M. M. 2015. Discrimination in selection decisions: Integrating stereotype fit and interdependence theories. *Academy of Management Journal*, 58: 789-812.

Lee, S., Pitesa, M., Pillutla, M., & Thau, S. 2015. When beauty helps and when it hurts: An organizational context model of attractiveness discrimination in selection decisions. *Organizational Behavior and Human Decision Processes*, 128: 15-28.

Leroy, S., Shipp, A. J., Blount, S., & Licht, J. G. 2015. Synchrony preference: Why some people go with the flow and some don't. *Personnel Psychology*, 68: 759-809.

Leslie, L. M., Manchester, C. F., & Dahm, P. C. 2017. Why and when does the gender gap reverse? Diversity goals and the pay premium for high potential women. *Academy of Management Journal*, 60: 402-432.

Levine, E. E., & Schweitzer, M. E. 2015. Prosocial lies: When deception breeds trust. *Organizational Behavior and Human Decision Processes*, 126: 88-106.

Levine, E. E., & Schweitzer, M. E. 2015. The affective and interpersonal consequences of obesity. *Organizational Behavior and Human Decision Processes*, 127: 66-84.

Li, J., Burch, T. C., & Lee, T. W. 2017. Intra-individual variability in job complexity over time: Examining the effect of job complexity trajectory on employee job strain. *Journal of Organizational Behavior*, : 671-691.

Li, J. J., Lee, T. W., Mitchell, T. R., Hom, P. W., & Griffeth, R. W. 2016. The effects of proximal withdrawal states on job attitudes, job searching, intent to leave, and employee turnover. *Journal of Applied Psychology*, 101: 1436-1456.

Li, M., & Chapman, G. B. 2013. A big fish or a small pond? Framing effects in percentages. *Organizational Behavior and Human Decision Processes*, 122: 190-199.

- Lindsey, A. P., Avery, D. R., Dawson, J. F., & King, E. B. 2017. Investigating why and for whom management ethnic representativeness influences interpersonal mistreatment in the workplace. *Journal of Applied Psychology*, 102: 1545-1563.
- Lieke, L., Johns, G., Lyons, B. J., & ter Hoeven, C. L. 2016. Why and when do employees imitate the absenteeism of co-workers? *Organizational Behavior and Human Decision Processes*, 134: 16-30.
- Lin, S. H. J., & Johnson, R. E. 2015. A suggestion to improve a day keeps your depletion away: Examining promotive and prohibitive voice behaviors within a regulatory focus and ego depletion framework. *Journal of Applied Psychology*, 100: 1381-1397.
- Lin, S. H. J., Ma, J., & Johnson, R. E. 2016. When ethical leader behavior breaks bad: How ethical leader behavior can turn abusive via ego depletion and moral licensing. *Journal of Applied Psychology*, 101: 815-830.
- Lin-Healy, F., & Small, D. A. 2012. Cheapened altruism: Discounting personally affected prosocial actors. *Organizational Behavior and Human Decision Processes*, 117: 269-274.
- Liu, P. J., Campbell, T. H., Fitzsimons, G. J., & Fitzsimons, G. M. 2013. Matching choices to avoid offending stigmatized group members. *Organizational Behavior and Human Decision Processes*, 122: 291-304.
- Liu, Z., Liu, X. X., Hong, Y. Y., Brockner, J., Tam, K. P., & Li, Y. M. 2017. Is individual bribery or organizational bribery more intolerable in China versus in the United States? Advancing theory on the perception of corrupt acts. *Organizational Behavior and Human Decision Processes*, 143: 111-128.

Long, C. P., Bendersky, C., & Morrill, C. 2011. Fairness monitoring: Linking managerial controls and fairness judgments in organizations. *Academy of Management Journal*, 54: 1045-1068.

Long, E. C., & Christian, M. S. 2015. Mindfulness buffers retaliatory responses to injustice: A regulatory approach. *Journal of Applied Psychology*, 100: 1409-1422.

Lount Jr, R. B., Pettit, N. C., & Doyle, S. P. 2017. Motivating underdogs and favorites. *Organizational Behavior and Human Decision Processes*, 141: 82-93.

Lount Jr, R. B., Sheldon, O. J., Rink, F., & Phillips, K. W. 2015. Biased perceptions of racially diverse teams and their consequences for resource support. *Organization Science*, 26: 1351-1364.

Lu, J. G., Akinola, M., & Mason, M. F. 2017. “Switching On” creativity: Task switching can increase creativity by reducing cognitive fixation. *Organizational Behavior and Human Decision Processes*, 139: 63-75.

Lu, J. G., Hafenbrack, A. C., Eastwick, P. W., Wang, D. J., Maddux, W. W., & Galinsky, A. D. 2017. “Going out” of the box: Close intercultural friendships and romantic relationships spark creativity, workplace innovation, and entrepreneurship. *Journal of Applied Psychology*, 102: 1091-1108.

Lyngsie, J., & Foss, N. J. 2017. The more, the merrier? Women in top management teams and entrepreneurship in established firms. *Strategic Management Journal*, 38: 487-505.

Lyons, B. J., Volpone, S. D., Wessel, J. L., & Alonso, N. M. 2017. Disclosing a disability: Do strategy type and onset controllability make a difference? *Journal of Applied Psychology*, 102: 1375-1383.

- Ma, A., & Kay, A. C. 2017. Compensatory control and ambiguity intolerance. *Organizational Behavior and Human Decision Processes*, 140: 46-61.
- Mai, K. M., Ellis, A. P., Christian, J. S., & Porter, C. O. L. H. 2016. Examining the effects of turnover intentions on organizational citizenship behaviors and deviance behaviors: A psychological contract approach. *Journal of Applied Psychology*, 101: 1067-1081.
- Marchiondo, L. A., Myers, C. G., & Kopelman, S. 2015. The relational nature of leadership identity construction: How and when it influences perceived leadership and decision-making. *The Leadership Quarterly*, 26: 892-908.
- Marr, J. C., Thau, S., Aquino, K., & Barclay, L. J. 2012. Do I want to know? How the motivation to acquire relationship-threatening information in groups contributes to paranoid thought, suspicion behavior, and social rejection. *Organizational Behavior and Human Decision Processes*, 117: 285-297.
- Martin, A. E., & Phillips, K. W. 2017. What "blindness" to gender differences helps women see and do: Implications for confidence, agency, and action in male-dominated environments. *Organizational Behavior and Human Decision Processes*, 142: 28-44.
- Martinez, L. R., White, C. D., Shapiro, J. R., & Hebl, M. R. 2016. Selection BIAS: Stereotypes and discrimination related to having a history of cancer. *Journal of Applied Psychology*, 101: 122-128.
- Matta, F. K., Scott, B. A., Colquitt, J. A., Koopman, J., & Passantino, L. G. 2017. Is consistently unfair better than sporadically fair? An investigation of justice variability and stress. *Academy of Management Journal*, 60: 743-770.



Matthews, R. A., Wayne, J. H., & Ford, M. T. 2014. A work–family conflict/subjective well-being process model: A test of competing theories of longitudinal effects. *Journal of Applied Psychology*, 99: 1173-1187.

Mawritz, M. B., Greenbaum, R. L., Butts, M. M., & Graham, K. A. 2017. I just can’t control myself: A self-regulation perspective on the abuse of deviant employees. *Academy of Management Journal*, 60: 1482-1503.

Mayer, D. M., Thau, S., Workman, K. M., Van Dijke, M., & De Cremer, D. 2012. Leader mistreatment, employee hostility, and deviant behaviors: Integrating self-uncertainty and thwarted needs perspectives on deviance. *Organizational Behavior and Human Decision Processes*, 117: 24-40.

McCarthy, J. M., Bauer, T. N., Truxillo, D. M., Campion, M. C., Van Iddekinge, C. H., & Campion, M. A. 2017. Using pre-test explanations to improve test-taker reactions: Testing a set of “wise” interventions. *Organizational Behavior and Human Decision Processes*, 141: 43-56.

McGonagle, A. K., Fisher, G. G., Barnes-Farrell, J. L., & Grosch, J. W. 2015. Individual and work factors related to perceived work ability and labor force outcomes. *Journal of Applied Psychology*, 100: 376-398.

McGraw, A. P., Todorov, A., & Kunreuther, H. 2011. A policy maker’s dilemma: Preventing terrorism or preventing blame. *Organizational Behavior and Human Decision Processes*, 115: 25-34.

Meleady, R., & Crisp, R. J. 2017. Take it to the top: Imagined interactions with leaders elevates organizational identification. *The Leadership Quarterly*, 28: 621-638.

- Meyer, R. D., Dalal, R. S., José, I. J., Hermida, R., Chen, T. R., Vega, R. P., ... & Khare, V. P. 2014. Measuring job-related situational strength and assessing its interactive effects with personality on voluntary work behavior. *Journal of Management*, 40: 1010-1041.
- Milkman, K. L. 2012. Unsure what the future will bring? You may overindulge: Uncertainty increases the appeal of wants over shoulds. *Organizational Behavior and Human Decision Processes*, 119: 163-176.
- Milkman, K. L., Akinola, M., & Chugh, D. 2015. What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology*, 100: 1678-1712.
- Miron-Spektor, E., Paletz, S. B., & Lin, C. C. 2015. To create without losing face: The effects of face cultural logic and social image affirmation on creativity. *Journal of Organizational Behavior*, 36: 919-943.
- Mitchell, M. S., Vogel, R. M., & Folger, R. 2015. Third parties' reactions to the abusive supervision of coworkers. *Journal of Applied Psychology*, 100: 1040-1055.
- Mochon, D., & Frederick, S. 2013. Anchoring in sequential judgments. *Organizational Behavior and Human Decision Processes*, 122: 69-79.
- Montes, S. D., & Zweig, D. 2009. Do promises matter? An exploration of the role of promises in psychological contract breach. *Journal of Applied Psychology*, 94: 1243-1260.
- Moore, D. A., Carter, A. B., & Yang, H. H. 2015. Wide of the mark: Evidence on the underlying causes of overprecision in judgment. *Organizational Behavior and Human Decision Processes*, 131: 110-120.

Moore, S. G., Neal, D. T., Fitzsimons, G. J., & Shiv, B. 2012. Wolves in sheep’s clothing: How and when hypothetical questions influence behavior. *Organizational Behavior and Human Decision Processes*, 117: 168-178.

Morrison, E. W., See, K. E., & Pan, C. 2015. An approach-inhibition model of employee silence: The joint effects of personal sense of power and target openness. *Personnel Psychology*, 68: 547-580.

Motro, D., & Ellis, A. P. J. 2017. Boys, don’t cry: Gender and reactions to negative performance feedback. *Journal of Applied Psychology*, 102: 227-235.

Mulder, L. B., & Aquino, K. 2013. The role of moral identity in the aftermath of dishonesty. *Organizational Behavior and Human Decision Processes*, 121: 219-230.

Mulder, L. B., Jordan, J., & Rink, F. 2015. The effect of specific and general rules on ethical decisions. *Organizational Behavior and Human Decision Processes*, 126: 115-129.

Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. 2008. Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, 93: 1220-1233.

Newark, D. A., Bohns, V. K., & Flynn, F. J. 2017. A helping hand is hard at work: Help-seekers’ underestimation of helpers’ effort. *Organizational Behavior and Human Decision Processes*, 139: 18-29.

Nakashima, N. A., Daniels, D. P., & Laurin, K. 2017. It’s about time: Divergent evaluations of restrictive policies in the near and distant future. *Organizational Behavior and Human Decision Processes*, 142: 12-27.

Ng, T. W., & Feldman, D. C. 2010. The effects of organizational embeddedness on development of social capital and human capital. *Journal of Applied Psychology*, 95: 696-712.

- Ng, T. W., & Feldman, D. C. 2012. The effects of organizational and community embeddedness on work-to-family and family-to-work conflict. *Journal of Applied Psychology*, 97: 1233-1251.
- Ng, T. W., & Feldman, D. C. 2013. Age and innovation-related behavior: The joint moderating effects of supervisor undermining and proactive personality. *Journal of Organizational Behavior*, 34: 583-606.
- Ng, T. W., & Feldman, D. C. 2013. Changes in perceived supervisor embeddedness: Effects on employees' embeddedness, organizational trust, and voice behavior. *Personnel Psychology*, 66: 645-685.
- Ng, T. W., & Feldman, D. C. 2015. Idiosyncratic deals and voice behavior. *Journal of Management*, 41: 893-928.
- Nichols, A. L., & Cottrell, C. A. 2014. What do people desire in their leaders? The role of leadership level on trait desirability. *The Leadership Quarterly*, 25: 711-729.
- Obodaru, O. 2017. Forgone, but not forgotten: Toward a theory of forgone professional identities. *Academy of Management Journal*, 60: 523-553.
- Olivola, C. Y., Eubanks, D. L., & Lovelace, J. B. 2014. The many distinctive faces of leadership: Inferring leadership domain from facial appearance. *The Leadership Quarterly*, 25: 817-834.
- O'Reilly, J., Aquino, K., & Skarlicki, D. 2016. The lives of others: Third parties' responses to others' injustice. *Journal of Applied Psychology*, 101: 171-189.
- O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. 2014. Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science*, 26: 774-793.

- Owens, B. P., Baker, W. E., Sumpter, D. M., & Cameron, K. S. 2016. Relational energy at work: Implications for job engagement and job performance. *Journal of Applied Psychology*, 101: 35-49.
- Paharia, N., Kassam, K. S., Greene, J. D., & Bazerman, M. H. 2009. Dirty work, clean hands: The moral psychology of indirect agency. *Organizational Behavior and Human Decision Processes*, 109: 134-141.
- Paharia, N., Vohs, K. D., & Deshpandé, R. 2013. Sweatshop labor is wrong unless the shoes are cute: Cognition can both help and hurt moral motivated reasoning. *Organizational Behavior and Human Decision Processes*, 121: 81-88.
- Palanski, M. E., & Yammarino, F. J. 2011. Impact of behavioral integrity on follower job performance: A three-study examination. *The Leadership Quarterly*, 22: 765-786.
- Palmeira, M., Spassova, G., & Keh, H. T. 2015. Other-serving bias in advice-taking: When advisors receive more credit than blame. *Organizational Behavior and Human Decision Processes*, 130: 13-25.
- Parke, M. R., Seo, M. G., & Sherf, E. N. 2015. Regulating and facilitating: The role of emotional intelligence in maintaining and using positive affect for creativity. *Journal of Applied Psychology*, 100: 917-934.
- Peng, A. C., & Zeng, W. 2017. Workplace ostracism and deviant and helping behaviors: The moderating role of 360 degree feedback. *Journal of Organizational Behavior*, 38: 833-855.
- Perry-Smith, J. E. 2014. Social network ties beyond nonredundancy: An experimental investigation of the effect of knowledge content and tie strength on creativity. *Journal of Applied Psychology*, 99: 831-846.

- Pettit, N. C., Doyle, S. P., Lount, R. B., & To, C. 2016. Cheating to get ahead or to avoid falling behind? The effect of potential negative versus positive status change on unethical behavior. *Organizational Behavior and Human Decision Processes*, 137: 172-183.
- Peus, C., Braun, S., & Frey, D. 2013. Situation-based measurement of the full range of leadership model—development and validation of a situational judgment test. *The Leadership Quarterly*, 24: 777-795.
- Peysakhovich, A., & Karmarkar, U. R. 2015. Asymmetric effects of favorable and unfavorable information on decision making under ambiguity. *Management Science*, 62: 2163-2178.
- Peysakhovich, A., & Rand, D. G. 2015. Habits of virtue: Creating norms of cooperation and defection in the laboratory. *Management Science*, 62: 631-647.
- Pham, M. T., Faraji-Rad, A., Toubia, O., & Lee, L. 2015. Affect as an ordinal system of utility assessment. *Organizational Behavior and Human Decision Processes*, 131: 81-94.
- Phillips, J. M., Gully, S. M., McCarthy, J. E., Castellano, W. G., & Kim, M. S. 2014. Recruiting global travelers: The role of global travel recruitment messages and individual differences in perceived fit, attraction, and job pursuit intentions. *Personnel Psychology*, 67: 153-201.
- Piccolo, R. F., & Colquitt, J. A. 2006. Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, 49: 327-340.
- Pitesa, M., & Thau, S. 2013. Masters of the universe: How power and accountability influence self-serving decisions under moral hazard. *Journal of Applied Psychology*, 98: 550-558.
- Pitesa, M., Thau, S., & Pillutla, M. M. 2013. Cognitive control and socially desirable behavior: The role of interpersonal impact. *Organizational Behavior and Human Decision Processes*, 122: 232-243.

Polman, E. 2012. Self–other decision making and loss aversion. *Organizational Behavior and Human Decision Processes*, 119: 141-150.

Polman, E., & Russo, J. E. 2012. Commitment to a developing preference and predecisional distortion of information. *Organizational Behavior and Human Decision Processes*, 119: 78-88.

Porter, C. M., Woo, S. E., & Campion, M. A. 2016. Internal and external networking differentially predict turnover through job embeddedness and job offers. *Personnel Psychology*, 69: 653-672.

Posavac, S. S., Kardes, F. R., & Brakus, J. J. 2010. Focus induced tunnel vision in managerial judgment and decision making: The peril and the antidote. *Organizational Behavior and Human Decision Processes*, 113: 102-111.

Proudfoot, D., Kay, A. C., & Mann, H. 2015. Motivated employee blindness: The impact of labor market instability on judgment of organizational inefficiencies. *Organizational Behavior and Human Decision Processes*, 130: 108-122.

Quade, M. J., Greenbaum, R. L., & Petrenko, O. V. 2017. “I don’t want to be near you, unless...”: The interactive effect of unethical behavior and performance onto relationship conflict and workplace ostracism. *Personnel Psychology*, 70: 675-709.

Quinn, R. W., & Bunderson, J. S. 2016. Could we huddle on this project? Participant learning in newsroom conversations. *Journal of Management*, 42: 386-418.

Rader, C. A., Soll, J. B., & Larrick, R. P. 2015. Pushing away from representative advice: Advice taking, anchoring, and adjustment. *Organizational Behavior and Human Decision Processes*, 130: 26-43.

- Radzevick, J. R., & Moore, D. A. 2013. Just how comparative are comparative judgments? *Organizational Behavior and Human Decision Processes*, 122: 80-91.
- Ragins, B. R., Ehrhardt, K., Lyness, K. S., Murphy, D. D., & Capman, J. F. 2017. Anchoring relationships at work: High-quality mentors and other supportive work relationships as buffers to ambient racial discrimination. *Personnel Psychology*, 70: 211-256.
- Ragsdale, J. M., & Beehr, T. A. 2016. A rigorous test of a model of employees' resource recovery mechanisms during a weekend. *Journal of Organizational Behavior*, 37: 911-932.
- Rai, T. S., & Diermeier, D. 2015. Corporations are cyborgs: Organizations elicit anger but not sympathy when they can think but cannot feel. *Organizational Behavior and Human Decision Processes*, 126: 18-26.
- Ramarajan, L., Berger, I. E., & Greenspan, I. 2017. Multiple identity configurations: The benefits of focused enhancement for prosocial behavior. *Organization Science*, 28: 495-513.
- Ramarajan, L., Rothbard, N. P., & Wilk, S. L. 2017. Discordant vs. Harmonious Selves: The Effects of Identity Conflict and Enhancement on Sales Performance in Employee–Customer Interactions. *Academy of Management Journal*, 60: 2208-2238.
- Read, D., Olivola, C. Y., & Hardisty, D. J. 2016. The value of nothing: Asymmetric attention to opportunity costs drives intertemporal decision making. *Management Science*, 63: 4277-4297.
- Resick, C. J., Whitman, D. S., Weingarden, S. M., & Hiller, N. J. 2009. The bright-side and the dark-side of CEO personality: Examining core self-evaluations, narcissism,



transformational leadership, and strategic influence. *Journal of Applied Psychology*, 94: 1365-1381.

Reynolds, S. J. 2008. Moral attentiveness: Who pays attention to the moral aspects of life? *Journal of Applied Psychology*, 93: 1027-1041.

Reynolds, S. J., & Ceranic, T. L. 2007. The effects of moral judgment and moral identity on moral behavior: An empirical examination of the moral individual. *Journal of Applied Psychology*, 92: 1610-1624.

Reynolds, S. J., Dang, C. T., Yam, K. C., & Leavitt, K. 2014. The role of moral knowledge in everyday immorality: What does it matter if I know what is right? *Organizational Behavior and Human Decision Processes*, 123: 124-137.

Reyt, J. N., & Wiesenfeld, B. M. 2015. Seeing the forest for the trees: Exploratory learning, mobile technology, and knowledge workers' role integration behaviors. *Academy of Management Journal*, 58: 739-762.

Reyt, J. N., Wiesenfeld, B. M., & Trope, Y. 2016. Big picture is better: The social implications of construal level for advice taking. *Organizational Behavior and Human Decision Processes*, 135: 22-31.

Richards, D. A., & Hackett, R. D. 2012. Attachment and emotion regulation: Compensatory interactions and leader-member exchange. *The Leadership Quarterly*, 23: 686-701.

Richards, D. A., & Schat, A. C. 2011. Attachment at not to work: applying attachment theory to explain individual behavior in organizations. *Journal of Applied Psychology*, 96: 169-182.

- Ritova, I., & Zamir, E. 2014. Affirmative action and other group tradeoff policies: Identifiability of those adversely affected. *Organizational Behavior and Human Decision Processes*, 125: 50-60.
- Ritter, K. J., Matthews, R. A., Ford, M. T., & Henderson, A. A. 2016. Understanding role stressors and job satisfaction over time using adaptation theory. *Journal of Applied Psychology*, 101: 1655-1669.
- Robertson, J. L., & Barling, J. 2013. Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behavior*, 34: 176-194.
- Rodell, J. B., Colquitt, J. A., & Baer, M. D. 2017. Is adhering to justice rules enough? The role of charismatic qualities in perceptions of supervisors' overall fairness. *Organizational Behavior and Human Decision Processes*, 140: 14-28.
- Rogers, T., & Bazerman, M. H. 2008. Future lock-in: Future implementation increases selection of 'should' choices. *Organizational Behavior and Human Decision Processes*, 106: 1-20.
- Rosen, C. C., Ferris, D. L., Brown, D. J., Chen, Y., & Yan, M. 2013. Perceptions of organizational politics: A need satisfaction paradigm. *Organization Science*, 25: 1026-1055.
- Rosen, C. C., Slater, D. J., Chang, C. H., & Johnson, R. E. 2013. Let's make a deal: Development and validation of the ex post i-deals scale. *Journal of Management*, 39: 709-742.
- Rosette, A. S., Carton, A. M., Bowes-Sperry, L., & Hewlin, P. F. 2013. Why do racial slurs remain prevalent in the workplace? Integrating theory on intergroup behavior. *Organization Science*, 24: 1402-1421.

Rosette, A. S., Koval, C. Z., Ma, A., & Livingston, R. 2016. Race matters for women leaders: Intersectional effects on agentic deficiencies and penalties. *The Leadership Quarterly*, 27: 429-445.

Rosette, A. S., Mueller, J. S., & Lebel, R. D. 2015. Are male leaders penalized for seeking help? The influence of gender and asking behaviors on competence perceptions. *The Leadership Quarterly*, 26: 749-762.

Rule, N. O., Bjornsdottir, R. T., Tskhay, K. O., & Ambady, N. 2016. Subtle perceptions of male sexual orientation influence occupational opportunities. *Journal of Applied Psychology*, 101: 1687-1704.

Rule, N. O., & Tskhay, K. O. 2014. The influence of economic context on the relationship between chief executive officer facial appearance and company profits. *The Leadership Quarterly*, 25: 846-854.

Rus, D., van Knippenberg, D., & Wisse, B. 2010. Leader self-definition and leader self-serving behavior. *The Leadership Quarterly*, 21: 509-529.

Rus, D., van Knippenberg, D., & Wisse, B. 2012. Leader power and self-serving behavior: The moderating role of accountability. *The Leadership Quarterly*, 23: 13-26.

Ruttan, R. L., & Nordgren, L. F. 2016. The strength to face the facts: Self-regulation defends against defensive information processing. *Organizational Behavior and Human Decision Processes*, 137: 86-98.

Saqib, N. U., & Chan, E. Y. 2015. Time pressure reverses risk preferences. *Organizational Behavior and Human Decision Processes*, 130: 58-68.

- Saluja, G., Adaval, R., & Wyer, R. S. 2017. Hesitant to label, yet quick to judge: How cultural mindsets affect the accessibility of stereotypic knowledge when concepts of the elderly are primed. *Organizational Behavior and Human Decision Processes*, 143: 23-38.
- Savani, K., & King, D. 2015. Perceiving outcomes as determined by external forces: The role of event construal in attenuating the outcome bias. *Organizational Behavior and Human Decision Processes*, 130: 136-146.
- Savani, K., Wadhwa, M., Uchida, Y., Ding, Y., & Naidu, N. V. R. 2015. When norms loom larger than the self: Susceptibility of preference–choice consistency to normative influence across cultures. *Organizational Behavior and Human Decision Processes*, 129: 70-79.
- Schaerer, M., Loschelder, D. D., & Swaab, R. I. 2016. Bargaining zone distortion in negotiations: The elusive power of multiple alternatives. *Organizational Behavior and Human Decision Processes*, 137: 156-171.
- Schaubroeck, J. M., & Shao, P. 2012. The role of attribution in how followers respond to the emotional expression of male and female leaders. *The Leadership Quarterly*, 23: 27-42.
- Schaumberg, R. L., & Flynn, F. J. 2017. Self-reliance: A gender perspective on its relationship to communality and leadership evaluations. *Academy of Management Journal*, 60: 1859-1881.
- Schaumberg, R. L., & Flynn, F. J. 2017. Clarifying the link between job satisfaction and absenteeism: The role of guilt proneness. *Journal of Applied Psychology*, 102: 982-992.
- Schminke, M., Caldwell, J., Ambrose, M. L., & McMahon, S. R. 2014. Better than ever? Employee reactions to ethical failures in organizations, and the ethical recovery paradox. *Organizational Behavior and Human Decision Processes*, 123: 206-219.

Scopelliti, I., Morewedge, C. K., McCormick, E., Min, H. L., Lebrecht, S., & Kassam, K. S. 2015. Bias blind spot: Structure, measurement, and consequences. *Management Science*, 61: 2468-2486.

Scott, B. A., Garza, A. S., Conlon, D. E., & Kim, Y. J. 2014. Why do managers act fairly in the first place? A daily investigation of “hot” and “cold” motives and discretion. *Academy of Management Journal*, 57: 1571-1591.

See, K. E., Morrison, E. W., Rothman, N. B., & Soll, J. B. 2011. The detrimental effects of power on confidence, advice taking, and accuracy. *Organizational Behavior and Human Decision Processes*, 116: 272-285.

Seibert, S. E., Sargent, L. D., Kraimer, M. L., & Kiazad, K. 2017. Linking Developmental Experiences to Leader Effectiveness and Promotability: The Mediating Role of Leadership Self-Efficacy and Mentor Network. *Personnel Psychology*, 70: 357-397.

Selenko, E., Mäkikangas, A., & Stride, C. B. 2017. Does job insecurity threaten who you are? Introducing a social identity perspective to explain well-being and performance consequences of job insecurity. *Journal of Organizational Behavior*, 38: 856-875.

Sezer, O., Zhang, T., Gino, F., & Bazerman, M. H. 2016. Overcoming the outcome bias: Making intentions matter. *Organizational Behavior and Human Decision Processes*, 137: 13-26.

Sharma, E., & Morwitz, V. G. 2016. Saving the masses: The impact of perceived efficacy on charitable giving to single vs. multiple beneficiaries. *Organizational Behavior and Human Decision Processes*, 135: 45-54.

Sharma, E., Mazar, N., Alter, A. L., & Ariely, D. 2014. Financial deprivation selectively shifts moral standards and compromises moral decisions. *Organizational Behavior and Human Decision Processes*, 123: 90-100.

## ONLINE PANEL DATA IN MANAGEMENT

44

- 1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60
- Shea, C. T., & Fitzsimons, G. M. 2016. Personal goal pursuit as an antecedent to social network structure. *Organizational Behavior and Human Decision Processes*, 137: 45-57.
- Sherf, E. N., Tangirala, S., & Weber, K. C. 2017. It Is Not My Place! Psychological Standing and Men's Voice and Participation in Gender-Parity Initiatives. *Organization Science*, 28: 193-210.
- Sherf, E. N., & Venkataramani, V. 2015. Friend or foe? The impact of relational ties with comparison others on outcome fairness and satisfaction judgments. *Organizational Behavior and Human Decision Processes*, 128: 1-14.
- Shin, J., & Milkman, K. L. 2016. How backup plans can harm goal pursuit: The unexpected downside of being prepared for failure. *Organizational Behavior and Human Decision Processes*, 135: 1-9.
- Shipp, A. J., Edwards, J. R., & Lambert, L. S. 2009. Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational Behavior and Human Decision Processes*, 110: 1-22.
- Shirako, A., Kilduff, G. J., & Kray, L. J. 2015. Is there a place for sympathy in negotiation? Finding strength in weakness. *Organizational Behavior and Human Decision Processes*, 131: 95-109.
- Shockley, K. M., Ureksoy, H., Rodopman, O. B., Poteat, L. F., & Dullaghan, T. R. 2016. Development of a new scale to measure subjective career success: A mixed-methods study. *Journal of Organizational Behavior*, 37: 128-153.
- Sirola, N., & Pitesa, M. 2017. Economic downturns undermine workplace helping by promoting a zero-sum construal of success. *Academy of Management Journal*, 60: 1339-1359.

Skarlicki, D. P., & Turner, R. A. 2014. Unfairness begets unfairness: Victim derogation bias in employee ratings. *Organizational Behavior and Human Decision Processes*, 124: 34-46.

Smith, E. B., & Chae, H. 2017. The effect of organizational atypicality on reference group selection and performance evaluation. *Organization Science*, 28: 1134-1149.

Spieler, I., Scheibe, S., Stamoov-Roßnagel, C., & Kappas, A. 2017. Help or hindrance? Day-level relationships between flextime use, work–nonwork boundaries, and affective well-being. *Journal of Applied Psychology*, 102: 67-87.

Stam, D., van Knippenberg, D., Wisse, B., & Nederveen Pieterse, A. 2016. Motivation in words: Promotion-and prevention-oriented leader communication in times of crisis. *Journal of Management*, 1-29.

Steffel, M., Williams, E. F., & Perrmann-Graham, J. 2016. Passing the buck: Delegating choices to others to avoid responsibility and blame. *Organizational Behavior and Human Decision Processes*, 135: 32-44.

Steffens, N. K., Haslam, S. A., & Reicher, S. D. 2014. Up close and personal: Evidence that shared social identity is a basis for the ‘special’ relationship that binds followers to leaders. *The Leadership Quarterly*, 25: 296-313.

Steffens, N. K., Haslam, S. A., Reicher, S. D., Platow, M. J., Fransen, K., Yang, J., ... & Boen, F. 2014. Leadership as social identity management: Introducing the Identity Leadership Inventory ILI to assess and validate a four-dimensional model. *The Leadership Quarterly*, 25: 1001-1024.

Steffens, N. K., Mols, F., Haslam, S. A., & Okimoto, T. G. 2016. True to what We stand for: Championing collective interests as a path to authentic leadership. *The Leadership Quarterly*, 27: 726-744.

- Steffens, N. K., Peters, K., Haslam, S. A., & van Dick, R. 2017. Dying for charisma: Leaders' inspirational appeal increases post-mortem. *The Leadership Quarterly*, 28: 530-542.
- Stiglbauer, B. 2017. Under what conditions does job control moderate the relationship between time pressure and employee well-being? Investigating the role of match and personal control beliefs. *Journal of Organizational Behavior*, 38: 730-748.
- Strauss, K., Griffin, M. A., & Parker, S. K. 2012. Future work selves: How salient hoped-for identities motivate proactive career behaviors. *Journal of Applied Psychology*, 97: 580-598.
- Sturman, M. C., & Walsh, K. 2014. Strengthening the employment relationship: The effects of work-hours fit on key employee attitudes. *Journal of Organizational Behavior*, 35: 762-784.
- Swaab, R. I., Phillips, K. W., & Schaerer, M. 2016. Secret conversation opportunities facilitate minority influence in virtual groups: The influence on majority power, information processing, and decision quality. *Organizational Behavior and Human Decision Processes*, 133: 17-32.
- Sweldens, S., Puntoni, S., Paolacci, G., & Vissers, M. 2014. The bias in the bias: Comparative optimism as a function of event social undesirability. *Organizational Behavior and Human Decision Processes*, 124: 229-244.
- Tang, S., Morewedge, C. M., Larrick, R. P., & Klein, J. G. 2017. Disloyalty aversion: Greater reluctance to bet against close others than the self. *Organizational Behavior and Human Decision Processes*, 140: 1-13.
- Tannenbaum, D., Fox, C. R., & Ülkümen, G. 2016. Judgment extremity and accuracy under epistemic vs. aleatory uncertainty. *Management Science*, 63: 497-518.



Tepper, B. J., Carr, J. C., Breaux, D. M., Geider, S., Hu, C., & Hua, W. 2009. Abusive supervision, intentions to quit, and employees' workplace deviance: A power/dependence analysis. *Organizational Behavior and Human Decision Processes*, 109: 156-167.

Tepper, B. J., Mitchell, M. S., Haggard, D. L., Kwan, H. K., & Park, H. M. 2015. On the exchange of hostility with supervisors: An examination of self-enhancing and self-defeating perspectives. *Personnel Psychology*, 68: 723-758.

Thau, S., & Mitchell, M. S. 2010. Self-gain or self-regulation impairment? Tests of competing explanations of the supervisor abuse and employee deviance relationship through perceptions of distributive justice. *Journal of Applied Psychology*, 95: 1009-1031.

Thau, S., Bennett, R. J., Mitchell, M. S., & Marrs, M. B. 2009. How management style moderates the relationship between abusive supervision and workplace deviance: An uncertainty management theory perspective. *Organizational Behavior and Human Decision Processes*, 108: 79-92.

Thau, S., Derfler-Rozin, R., Pitesa, M., Mitchell, M. S., & Pillutla, M. M. 2015. Unethical for the sake of the group: Risk of social exclusion and pro-group unethical behavior. *Journal of Applied Psychology*, 100: 98-113.

Tinsley, C. H., Howell, T. M., & Amanatullah, E. T. 2015. Who should bring home the bacon? How deterministic views of gender constrain spousal wage preferences. *Organizational Behavior and Human Decision Processes*, 126: 37-48.

Triana, M. D. C., Richard, O. C., & Yücel, İ. 2017. Status incongruence and supervisor gender as moderators of the transformational leadership to subordinate affective organizational commitment relationship. *Personnel Psychology*, 70: 429-467.

- Torelli, C. J., Leslie, L. M., Stoner, J. L., & Puente, R. 2014. Cultural determinants of status: Implications for workplace evaluations and behaviors. *Organizational Behavior and Human Decision Processes*, 123: 34-48.
- Tost, L. P., Wade-Benzoni, K. A., & Johnson, H. H. 2015. Noblesse oblige emerges with time: Power enhances intergenerational beneficence. *Organizational Behavior and Human Decision Processes*, 128: 61-73.
- Toubia, O., Johnson, E., Evgeniou, T., & Delquié, P. 2013. Dynamic experiments for estimating preferences: An adaptive method of eliciting time and risk parameters. *Management Science*, 59: 613-640.
- Triana, M. D. C., García, M. F., & Colella, A. 2010. Managing diversity: How organizational efforts to support diversity moderate the effects of perceived racial discrimination on affective commitment. *Personnel Psychology*, 63: 817-843.
- Tsai, M. H., & Bendersky, C. 2015. The pursuit of information sharing: Expressing task conflicts as debates vs. disagreements increases perceived receptivity to dissenting opinions in groups. *Organization Science*, 27: 141-156.
- Tskhay, K. O., Zhu, R., & Rule, N. O. 2017. Perceptions of charisma from thin slices of behavior predict leadership prototypicality judgments. *The Leadership Quarterly*, 28: 555-562.
- Tucker, S., Ogunfowora, B., & Ehr, D. 2016. Safety in the C-suite: How chief executive officers influence organizational safety climate and employee injuries. *Journal of Applied Psychology*, 101: 1228-1239.
- Uhlmann, E. L., Heaphy, E., Ashford, S. J., Zhu, L., & Sanchez-Burks, J. 2013. Acting professional: An exploration of culturally bounded norms against nonwork role referencing. *Journal of Organizational Behavior*, 34: 866-886.

Umphress, E. E., Bingham, J. B., & Mitchell, M. S. 2010. Unethical behavior in the name of the company: The moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *Journal of Applied Psychology*, 95: 769-780.

Unsworth, K. L., & McNeill, I. M. 2017. Increasing pro-environmental behaviors by increasing self-concordance: Testing an intervention. *Journal of Applied Psychology*, 102: 88-103.

Van Dijke, M., De Cremer, D., Brebels, L., & Van Quaquebeke, N. 2015. Willing and able: Action-state orientation and the relation between procedural justice and employee cooperation. *Journal of Management*, 41: 1982-2003.

Van Dijke, M., Wildschut, T., Leunissen, J. M., & Sedikides, C. 2015. Nostalgia buffers the negative impact of low procedural justice on cooperation. *Organizational Behavior and Human Decision Processes*, 127: 15-29.

Van Gils, S., Van Quaquebeke, N., van Knippenberg, D., van Dijke, M., & De Cremer, D. 2015. Ethical leadership and follower organizational deviance: The moderating role of follower moral attentiveness. *The Leadership Quarterly*, 26: 190-203.

Van Houwelingen, G., Van Dijke, M., & De Cremer, D. 2015. Getting it done and getting it right: Leader disciplinary reactions to followers' moral transgressions are determined by construal level mindset. *The Leadership Quarterly*, 26: 878-891.

Van Houwelingen, G., Van Dijke, M., & De Cremer, D. 2017. Fairness enactment as response to higher level unfairness: The roles of self-construal and spatial distance. *Journal of Management*, 43: 319-347.

- Van Quaquebeke, N., Van Knippenberg, D., & Brodbeck, F. C. 2011. More than meets the eye: The role of subordinates' self-perceptions in leader categorization processes. *The Leadership Quarterly*, 22: 367-382.
- Vincent, L. C., & Kouchaki, M. 2016. Creative, rare, entitled, and dishonest: How commonality of creativity in one's group decreases an individual's entitlement and dishonesty. *Academy of Management Journal*, 59: 1451-1473.
- Vogel, R. M., & Mitchell, M. S. 2017. The motivational effects of diminished self-esteem for employees who experience abusive supervision. *Journal of Management*, 43: 2218-2251.
- Vlachos, P. A., Panagopoulos, N. G., & Rapp, A. A. 2014. Employee judgments of and behaviors toward corporate social responsibility: A multi-study investigation of direct, cascading, and moderating effects. *Journal of Organizational Behavior*, 35: 990-1017.
- Vriend, T., Jordan, J., & Janssen, O. 2016. Reaching the top and avoiding the bottom: How ranking motivates unethical intentions and behavior. *Organizational Behavior and Human Decision Processes*, 137: 142-155.
- Walter, J., Levin, D. Z., & Murnighan, J. K. 2015. Reconnection choices: Selecting the most valuable vs. most preferred dormant ties. *Organization Science*, 26: 1447-1465.
- Walters, D. J., Fernbach, P. M., Fox, C. R., & Sloman, S. A. 2016. Known unknowns: A critical determinant of confidence and calibration. *Management Science*, 63: 4298-4307.
- Wan, F., Ansons, T. L., Chattopadhyay, A., & Leboe, J. P. 2013. Defensive reactions to slim female images in advertising: The moderating role of mode of exposure. *Organizational Behavior and Human Decision Processes*, 120: 37-46.
- Wang, L., & Murnighan, J. K. 2016. How much does honesty cost? Small bonuses can motivate ethical behavior. *Management Science*, 63: 2903-2914.

Wang, L., & Murnighan, J. K. 2017. The dynamics of punishment and trust. *Journal of Applied Psychology*, 102: 1385-1402.

Wang, Z., Singh, S. N., Li, Y. J., Mishra, S., Ambrose, M., & Biernat, M. 2017. Effects of employees' positive affective displays on customer loyalty intentions: An emotions-as-social-information perspective. *Academy of Management Journal*, 60: 109-129.

Wayne, J. H., Butts, M. M., Casper, W. J., & Allen, T. D. 2017. In search of balance: A conceptual and empirical integration of multiple meanings of work–family balance. *Personnel Psychology*, 70: 167-210.

Waytz, A., Chou, E. Y., Magee, J. C., & Galinsky, A. D. 2015. Not so lonely at the top: The relationship between power and loneliness. *Organizational Behavior and Human Decision Processes*, 130: 69-78.

Wee, E. X., Liao, H., Liu, D., & Liu, J. 2017. Moving from Abuse to Reconciliation: A Power-Dependence Perspective on When and How a Follower Can Break the Spiral of Abuse. *Academy of Management Journal*, 60: 2352-2380.

Weiss-Cohen, L., Konstantinidis, E., Speekenbrink, M., & Harvey, N. 2016. Incorporating conflicting descriptions into decisions from experience. *Organizational Behavior and Human Decision Processes*, 135: 55-69.

Wellman, N., Mayer, D. M., Ong, M., & DeRue, D. S. 2016. When are do-gooders treated badly? Legitimate power, role expectations, and reactions to moral objection in organizations. *The Journal of Applied Psychology*, 101: 793-814.

Welsh, D. T., & Ordóñez, L. D. 2014. Conscience without cognition: The effects of subconscious priming on ethical behavior. *Academy of Management Journal*, 57: 723-742.

- Welsh, D. T., Ordóñez, L. D., Snyder, D. G., & Christian, M. S. 2015. The slippery slope: How small ethical transgressions pave the way for larger future transgressions. *Journal of Applied Psychology*, 100: 114-127.
- Whitson, J. A., Wang, C. S., See, Y. H. M., Baker, W. E., & Murnighan, J. K. 2015. How, when, and why recipients and observers reward good deeds and punish bad deeds. *Organizational Behavior and Human Decision Processes*, 128: 84-95.
- Whitson, J., Wang, C. S., Kim, J., Cao, J., & Scrimshire, A. 2015. Responses to normative and norm-violating behavior: Culture, job mobility, and social inclusion and exclusion. *Organizational Behavior and Human Decision Processes*, 129: 24-35.
- Wiltermuth, S. S. 2011. Cheating more when the spoils are split. *Organizational Behavior and Human Decision Processes*, 115: 157-168.
- Wiltermuth, S. S., & Flynn, F. J. 2013. Power, moral clarity, and punishment in the workplace. *Academy of Management Journal*, 56: 1002-1023.
- Wiltermuth, S. S., & Tiedens, L. Z. 2011. Incidental anger and the desire to evaluate. *Organizational Behavior and Human Decision Processes*, 116: 55-65.
- Wiltermuth, S. S., Bennett, V. M., & Pierce, L. 2013. Doing as they would do: How the perceived ethical preferences of third-party beneficiaries impact ethical decision-making. *Organizational Behavior and Human Decision Processes*, 122: 280-290.
- Wiltermuth, S. S., Vincent, L. C., & Gino, F. 2017. Creativity in unethical behavior attenuates condemnation and breeds social contagion when transgressions seem to create little harm. *Organizational Behavior and Human Decision Processes*, 139: 106-126.

Winterich, K. P., Aquino, K., Mittal, V., & Swartz, R. 2013. When moral identity symbolization motivates prosocial behavior: The role of recognition and moral identity internalization. *Journal of Applied Psychology*, 98: 759-770.

Windeler, J. B., Chudoba, K. M., & Sundrup, R. Z. 2017. Getting away from them all: Managing exhaustion from social interaction with telework. *Journal of Organizational Behavior*, 38: 977-995.

Winterich, K. P., Mittal, V., & Morales, A. C. 2014. Protect thyself: How affective self-protection increases self-interested, unethical behavior. *Organizational Behavior and Human Decision Processes*, 125: 151-161.

Wolf, E. B., Lee, J. J., Sah, S., & Brooks, A. W. 2016. Managing perceptions of distress at work: Reframing emotion as passion. *Organizational Behavior and Human Decision Processes*, 137: 1-12.

Wright, T. A., Quick, J. C., Hannah, S. T., & Blake Hargrove, M. 2017. Best practice recommendations for scale construction in organizational research: The development and initial validation of the Character Strength Inventory CSI. *Journal of Organizational Behavior*, 38: 615-628.

Wu, C. H., & Parker, S. K. 2017. The role of leader support in facilitating proactive work behavior: A perspective from attachment theory. *Journal of Management*, 43: 1025-1049.

Yam, K. C., Chen, X. P., & Reynolds, S. J. 2014. Ego depletion and its paradoxical effects on ethical decision making. *Organizational Behavior and Human Decision Processes*, 124: 204-214.

- Yam, K. C., Klotz, A. C., He, W., & Reynolds, S. J. 2017. From good soldiers to psychologically entitled: Examining when and why citizenship behavior leads to deviance. *Academy of Management Journal*, 60: 373-396.
- Yam, K. C., Fehr, R., & Barnes, C. M. 2014. Morning employees are perceived as better employees: Employees' start times influence supervisor performance ratings. *Journal of Applied Psychology*, 99: 1288-1299.
- Yam, K. C., Fehr, R., Keng-Highberger, F. T., Klotz, A. C., & Reynolds, S. J. 2016. Out of control: A self-control perspective on the link between surface acting and abusive supervision. *Journal of Applied Psychology*, 101: 292-301.
- Yip, J. A., & Schweitzer, M. E. 2016. Mad and misleading: Incidental anger promotes deception. *Organizational Behavior and Human Decision Processes*, 137: 207-217.
- Zhang, T., Gino, F., & Norton, M. I. 2016. The surprising effectiveness of hostile mediators. *Management Science*, 63: 1972-1992.
- Zhou, L., Wang, M., Chang, C. H., Liu, S., Zhan, Y., & Shi, J. 2017. Commuting stress process and self-regulation at work: Moderating roles of daily task significance, family interference with work, and commuting means efficacy. *Personnel Psychology*, 70: 891-922.
- Zhu, L., Aquino, K., & Vadera, A. K. 2016. What makes professors appear credible: The effect of demographic characteristics and ideological beliefs. *Journal of Applied Psychology*, 101: 862-880.
- Zlatev, J. J., & Miller, D. T. 2016. Selfishly benevolent or benevolently selfish: When self-interest undermines versus promotes prosocial behavior. *Organizational Behavior and Human Decision Processes*, 137: 112-122.



SUPPLEMENTAL MATERIALS

OPD Article Count for Frequent Topics by OPP, Question Type, Method Type, and Design Element

	Leader- ship ( <i>k</i> = 49)	Decision Making ( <i>k</i> = 46)	Ethics/ Morality ( <i>k</i> = 36)	CWB ( <i>k</i> = 24)	Justice/ Fairness ( <i>k</i> = 22)	ID ( <i>k</i> = 18)	Diversity ( <i>k</i> = 16)	OCB/ PWAs ( <i>k</i> = 13)	Power & Politics ( <i>k</i> = 12)	Total ( <i>k</i> = 236)
OPP										
MTurk	18	32	21	10	14	11	10	6	7	129
Qualtrics	0	4	3	3	2	1	1	1	2	18
StudyResponse	12	0	4	6	2	3	1	2	1	31
Zoomerang	0	1	0	2	1	1	1	0	0	6
Other Public	8	3	0	2	1	0	1	2	0	17
Other Private	0	0	1	0	0	0	0	0	0	1
Unspecified	10	6	7	1	2	2	2	2	2	34
Question Type										
Measurement	7	11	8	2	5	8	1	5	1	48
Substantive	38	32	28	21	15	8	13	8	11	174
Substantive Pilot	4	3	0	1	2	2	2	0	0	14
Method Type										
Correlational	32	15	16	14	11	15	6	9	5	123
Experimental	17	31	20	10	11	3	10	4	7	113
Inductive	0	0	0	0	0	0	0	0	0	0
Design Elements										
Source Separated	6	0	0	3	0	1	0	1	2	12
Time Separated	4	0	4	4	2	1	5	4	0	29

Note: *k* = number of articles; CWB = counterproductive work behavior; OCB = organizational citizenship behavior; PWB = proactive workplace behavior; ID = individual differences.

## APPENDIX A

## Compilation of Best Practices Regarding Ten Major Methodological Issues with OPD

Topic 1: Recruitment and Selection					
Recommendation	Rationale for Recommendation	Cite(s) for Recommendation	Empirical Support for Recommendation	Empirical Support Against Recommendation	Disagreement or Issues with Recommendation
<ul style="list-style-type: none"> <li>• Post a "HIT" more than once and be sure to spread those HITs out across different times of the day or even days of the week</li> </ul>	<ul style="list-style-type: none"> <li>• Acquire larger samples quicker</li> <li>• Ensure HITs are completed by participants with different habits</li> <li>• Pilot to make sure survey runs smooth</li> <li>• Reduce risk of non-naïveté</li> </ul>	<ul style="list-style-type: none"> <li>• Keith, Tay, &amp; Harms (2017)</li> <li>• Paolacci &amp; Chandler (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Chilton, Horton, Miller, &amp; Azenkot (2010)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Releasing multiple batches increases chance of cross-talk on forums</li> </ul>
<ul style="list-style-type: none"> <li>• Only select workers who have completed relatively few (e.g., 0-100) studies</li> </ul>	<ul style="list-style-type: none"> <li>• "Low reputation" workers produce worse data</li> <li>• Beyond approval rate, the number of studies completed matters</li> </ul>	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Peer et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Workers who have completed large number of studies might be preferred (Cheung et al., 2017)</li> </ul>
<ul style="list-style-type: none"> <li>• When reputation information is available, restrict samples to "high reputation" workers (e.g., &lt; 95% approval) and possibly higher number of completed studies</li> </ul>	<ul style="list-style-type: none"> <li>• "Low reputation" workers produce worse data</li> <li>• Beyond approval rate, the number of studies completed matters</li> </ul>	<ul style="list-style-type: none"> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Keith et al. (2017)</li> <li>• Peer et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Peer et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• May increase presence of "professional survey takers," limiting generalizability (Keith et al., 2017)</li> </ul>
<ul style="list-style-type: none"> <li>• Make use of built-in and user-designed qualification features</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce respondent deception</li> <li>• Approximate target sample representativeness</li> <li>• Prevent participation more than once</li> </ul>	<ul style="list-style-type: none"> <li>• Buhrmester et al. (2011)</li> <li>• Chandler et al. (2014)</li> <li>• Cheung et al. (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Keith et al. (2017)</li> <li>• McGonagle (2015)</li> <li>• Paolacci &amp; Chandler (2014)</li> <li>• Stritch et al. (2017)</li> <li>• Woo et al. (2015)</li> <li>• Cheung et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Sprouse (2011)</li> </ul>	<ul style="list-style-type: none"> <li>• Use of qualifications may slow down recruitment</li> </ul>
<ul style="list-style-type: none"> <li>• Avoid qualification requirements not crucial to your research question</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce potential range restriction</li> </ul>	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Include eligibility requirements clearly in your recruitment advertisement</li> </ul>	<ul style="list-style-type: none"> <li>• Allow participants to self-select based on desired criteria</li> <li>• Avoid lost time, money, &amp; irritation</li> </ul>	<ul style="list-style-type: none"> <li>• Lovett et al. (2018)</li> <li>• Stritch et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler &amp; Shapiro (2016)</li> <li>• Peer et al. (2014)</li> <li>• Sharpe Wessling, Huber, &amp; Netzer (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Participants may lie about characteristics</li> </ul>
<ul style="list-style-type: none"> <li>• Design presurveys that do not give away participation requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce demand characteristics</li> <li>• Prevent researchers from</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> <li>• Chandler &amp; Shapiro (2016)</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler &amp; Shapiro (2016)</li> <li>• Peer et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>

	identifying subgroups of interests after results are known • Avoid participants who misrepresent themselves	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Goritz (2007)</li> <li>• Keith et al. (2017)</li> <li>• McGonagle (2015)</li> <li>• Shapiro, Chandler, &amp; Mueller (2013)</li> <li>• Smith et al. (2015)</li> <li>• Wessling et al. (2017)</li> </ul>			
• Describe research tasks generically at the outset	• Minimize risk of self-selection	• Goodman & Paolacci (2017)	• N/A	• N/A	• Could result in attrition if unaware of tasks
• Initially provide some details of experiment and approximately what participants will be doing	• Minimize attrition	• Horton, Rand, & Zeckhauser (2011)	• N/A	• N/A	• Too much information revealed could lead to self-selection bias
<b>Topic 2: Study Planning and Design</b>					
• Be aware of the existence of multiple OPPs and make use of those OPPs	<ul style="list-style-type: none"> <li>• Test theories across different samples</li> <li>• Find more native participants</li> <li>• Better response rates</li> <li>• Better data quality</li> <li>• More diverse participants</li> <li>• Avoid one dominant OPP shaping research questions and directions</li> <li>• Recruit qualitatively different participants</li> </ul>	<ul style="list-style-type: none"> <li>• Crone &amp; Williams (2017)</li> <li>• Gleibs (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Miller et al. (2017)</li> <li>• Peterson &amp; Merunka (2014)</li> </ul>	• Peer et al. (2017)	• N/A	• N/A
• Create unique completion codes that participants must submit to get paid	<ul style="list-style-type: none"> <li>• Link anonymous participants to responses</li> <li>• Reject poor data</li> </ul>	<ul style="list-style-type: none"> <li>• Buhrmester et al. (2011)</li> <li>• Keith et al. (2017)</li> <li>• Paolacci et al. (2010)</li> </ul>	• N/A	• N/A	<ul style="list-style-type: none"> <li>• Unless using third-party platform, can be time consuming and impractical to verify secret codes (Litman, Robinson, &amp; Abberbock 2017)</li> </ul>
• Be aware of and make use of third-party apps (e.g., TurkPrime) to help manage the research process	• Better manage the data collection process	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> <li>• Horton et al. (2011)</li> <li>• Keith et al. (2017)</li> <li>• Mason &amp; Suri (2012)</li> <li>• Stritch et al. (2017)</li> </ul>	• Litman et al. (2017)	• N/A	• N/A
• Increase your sample size to offset anticipated decreases in power	<ul style="list-style-type: none"> <li>• Deal with attenuated effects sizes due to non-naïveté</li> <li>• Low quality data can harm results</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2015)</li> <li>• Rouse (2015)</li> <li>• Sprouse (2011)</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2015)</li> <li>• Sprouse (2011)</li> </ul>	• N/A	• N/A
• Avoid common experimental paradigms and psychological measures	• Avoid problems with participant non-naïveté (e.g., practice effects)	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Hauser &amp; Schwarz (2016)</li> </ul>	• Chandler et al. (2014)	• N/A	• N/A

			<ul style="list-style-type: none"> <li>• Keith et al. (2017)</li> <li>• Paolacci &amp; Chandler (2014)</li> <li>• Paolacci et al. (2010)</li> <li>• Woo et al. (2015)</li> </ul>			
<ul style="list-style-type: none"> <li>• Ensure study design consistency when combining samples</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce chance that effect size differences are due to different design features</li> </ul>	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> <li>• Mason &amp; Suri (2012)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Temporally separate IVs and DVs when possible and/or appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce common method variance</li> <li>• Reduce demand characteristics</li> <li>• Conduct test-retest reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Paolacci &amp; Chandler (2014)</li> <li>• Stritch et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• Requires tracking IDs which could potentially be used to access personally identifiable information</li> </ul>
<ul style="list-style-type: none"> <li>• Use source-separation for surveys when possible and/or appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce common method variance</li> </ul>	<ul style="list-style-type: none"> <li>• Paolacci &amp; Chandler (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• Could violate terms of some OPPs to ask for personal info (Miller et al., 2017)</li> </ul>
<ul style="list-style-type: none"> <li>• Avoid OPD for cross-cultural research in non-English speaking countries or when unnecessary</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid non-representative sample</li> <li>• Improve data quality</li> </ul>	<ul style="list-style-type: none"> <li>• Buhmester et al. (2011)</li> <li>• Chandler &amp; Shapiro (2016)</li> <li>• Cheung et al. (2017)</li> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Feitosa et al. (2015)</li> <li>• Litman et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• Studies have successfully used OPPs based in other countries to obtain acceptable quality data (e.g., Ng &amp; Feldman 2012; Ng &amp; Feldman, 2015)</li> </ul>
<ul style="list-style-type: none"> <li>• Make use of OPD for cross cultural research</li> </ul>	<ul style="list-style-type: none"> <li>• Growing number of countries from which to draw a sample</li> </ul>	<ul style="list-style-type: none"> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Paolacci et al. (2010)</li> <li>• Woo et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Feitosa et al. (2015)</li> <li>• Litman et al. (2015)</li> </ul>		<ul style="list-style-type: none"> <li>• Increase risk of sample bias in countries where English is not first language</li> <li>• Poor data quality</li> </ul>
<b>Topic 3: Measures and Controls</b>						
<ul style="list-style-type: none"> <li>• Ask participants if they have participated in similar experimental manipulations before</li> </ul>	<ul style="list-style-type: none"> <li>• Account for non-naïveté</li> </ul>	<ul style="list-style-type: none"> <li>• Paolacci et al. (2010)</li> <li>• Woo et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• Participants may not remember (or may falsify) reports of prior participation</li> </ul>
<ul style="list-style-type: none"> <li>• Track participant IDs to account for non-naïveté—asking participants if they have participated in similar experimental manipulations before is not enough</li> </ul>	<ul style="list-style-type: none"> <li>• Participants may not remember or may be dishonest when reporting on whether they have engaged in similar experiments</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> <li>• Chandler et al. (2015)</li> <li>• Cheung et al. (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• Some evidence that worker IDs can be linked to personally identifying information</li> </ul>
<ul style="list-style-type: none"> <li>• Measure the completion rate and bounce rate when possible</li> </ul>	<ul style="list-style-type: none"> <li>• Account for potential impact of self-selection</li> </ul>	<ul style="list-style-type: none"> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Ask workers how they found your study</li> </ul>	<ul style="list-style-type: none"> <li>• Detect potential selection bias</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Ask participants why they participated in your study</li> </ul>	<ul style="list-style-type: none"> <li>• Understand if and how motivations affect substantive findings</li> </ul>	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> <li>• McGonagle (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• Fleischer, Mead, &amp; Huang (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Measure perceived equity for participation</li> </ul>	<ul style="list-style-type: none"> <li>• Determine possible inequity</li> </ul>	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Measure sources of “noise” in the</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and control for</li> </ul>	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>		<ul style="list-style-type: none"> <li>• N/A</li> </ul>

participant's physical environment	systematic differences in environments	• Lovett et al. (2018)	• Clifford & Jerit (2014) • Lovett et al. (2018)		
• Control for the number studies previously completed by the participant	• Evaluate non-naïveté • Use as covariate in data analysis	• Goodman & Paolacci (2017)	• N/A	• N/A	• N/A
<b>Topic 4: Informing</b>					
• Post informed consent	• Decrease social desirability	• Behrend et al. (2011) • Mason & Suri (2012)	• Behrend et al. (2011)	• N/A	• N/A
• Provide debriefing when appropriate	• Allow participants to understand purpose • Provide way to contact researcher	• Mason & Suri (2012) • Stritch et al. (2017)	• N/A	• N/A	• Debriefing may cause "loyal following" or increase non-naïveté (Chandler et al., 2014)
• Specify any physical environment requirements ahead of time	• Reduce chance that extraneous factors influence findings	• Cheung et al. (2017)	• N/A	• N/A	• N/A
• Ensure you provide good directions and that your survey formatting is free of error	• Improve data quality and effort put forth by participants	• Alonso & Mizzaro (2012) • Lovett et al. (2018)	• N/A	• N/A	• N/A
<b>Topic 5: Data Quality</b>					
• Provide warnings that inattentiveness will not result in compensation	• Reduce risk of inattentiveness • Foster withdrawal-without-prejudice • Decrease attrition	• Cheung et al. (2017) • Gleibs (2017) • Keith et al. (2017) • Stritch et al. (2017)	• Huang, Liu, & Bowling (2015b) • Huang, Curran, Keeney, Poposki, & DeShon (2012)	• N/A	• Could trigger reactance from participants
• Pay inattentive workers but consider blocking them from future participation	• Balance norms of OP community (i.e., reject bad work) with IRB requirements to avoid penalizing subjects who withdraw • Maintain a positive reputation among participants	• Harms & DeSimone (2015) • Keith et al. (2017) • Paolacci et al. (2010)	• N/A	• N/A	• Moral obligation to avoid paying for bad work (Fleischer et al., 2015). • Might violate IRB's "without penalty" portion of right to withdraw (Fleischer et al., 2015)
• Offer a second chance to participants who fail attention checks	• Provides justification for refusing HIT • Minimizes perceptions of unfairness • Protects Requestor's reputation in OP community	• Cheung et al. (2017)	• Oppenheimer, Mevvis, & Davidenko (2009)	• N/A	• There could be group differences between participants who initially failed checks and those that did not (Oppenheimer et al., 2009)
• Award bonuses for high-quality work and let participants know ahead of time that bonuses are available	• Encourages high quality responses	• Keith et al. (2017) • Woo et al. (2015)	• Barger, Behrend, Sharek, & Sinar, 2011) • Brawley & Pury (2016) • Chandler, Paolacci & Mueller (2014)	• N/A	• Avoid incentivizing practices that you do not want to become norms (Hauser & Schwarz, 2016)
• Set upper and lower rates on survey completion times and reject work exceeding those limits	• Ensures responses that are too quick or too slow are automatically rejected	• Mason & Suri (2012) • Miller et al. (2017) • Stritch et al. (2017)	• Huang et al. (2015b) • Huang et al. (2012) • Meade & Craig (2012)	• Greszki, Meyer, & Schoen (2014) • Lovett et al. (2018)	• Time limits may be a bad indicator of quality
• Do not put a time limit on how fast or slow a survey can be completed by	• Fast people can do accurate work as well as slow people	• Lovett et al. (2018) • Matthijsse, De Leeuw, &	• Brawley & Pury (2016) • Greszki et al. (2014)	• Aust et al. (2013) • Huang et al. (2015a)	• Participants who are unreasonably slow or fast

participants	Hox (2015)	• Lovett et al. (2018)	• Huang et al. (2012) • Meade & Craig (2012)	may go undetected
• Create unique attention checks and/or use instructional manipulation checks	• Fleischer et al. (2015) • Goodman & Paolacci (2017) • Rouse (2015)	• Hauser & Schwarz (2016)	• Peer et al. (2014)	• When samples are composed of high reputation workers, novel checks may be ineffective • Checks may be ineffective • Could cause reactance on the part of participants
• Use conventional attention checks to identify and potentially remove responses provided by careless respondents	• Cheung et al. (2017) • Fleischer et al. (2015) • Keith et al. (2017) • Landers & Behrend (2015) • Mason & Suri (2012) • McGonagle (2015) • Paolacci et al. (2010) • Ran, Liu, Marchiondo, & Huang (2015) • Shapiro et al. (2013) • Smith et al. (2015) • Sprouse (2011) • Stritch et al. (2017) • Woo et al. (2015)	• Fleischer et al. (2015) • McGonagle (2015) • Meade & Craig (2012) • Huang et al. (2015a) • Huang et al. (2012) • Huang et al. (2015b) • Woods (2006)	• Aust et al. (2013) • Downs et al. (2012) • Goodman et al. (2012) • Peer et al. (2014) • Rouse (2015)	
• Ask participants whether they were attentive and give them option to have data removed	• Rouse (2015)	• Aust et al. (2013) • Meade & Craig (2012) • Rouse (2015)	• Oppenheimer et al. (2009)	• Could signal non-serious responses are expected, increasing bad data (Aust et al., 2013) • Reduced ability to compare participants on differences in main study variables
• Either prescreen for attentiveness or simply avoid using ex-post screening methods to identify careless respondents	• Chandler et al. (2014) • Keith et al. (2017) • Mason & Suri (2012) • Paolacci & Chandler (2014) • Paolacci et al. (2010) • Ran et al. (2015)	• Simmons, Nelson, & Simonsohn (2011)	• N/A	
<b>Topic 6: Comparisons</b>				
• Track participant IDs when available	• Chandler et al. (2015) • Chandler & Shapiro (2016) • Cheung et al. (2017) • Goodman & Paolacci (2017) • Mason & Suri (2012) • Paolacci et al. (2010) • Stritch et al. (2017)	• Chandler et al. (2015)	• Lease et al. (2013)	• Building a panel of participants could lead to panel conditioning (Chandler & Shapiro, 2016; Goritz, 2007) • Could potentially reveal personally identifying information (Goodman & Paolacci, 2017; Lease et al., 2013) • N/A
• Compare reliability estimates of your OPD sample to relevant comparison samples	• Rouse (2015)	• Rouse (2015)	• N/A	

• Capture IP addresses and reject responses from the same IP address	• Screen for multiple responses from same individual	• Cheung et al. (2017) • Mason & Suri (2012) • Smith et al. (2015) • Stritch et al. (2017)	• Horton et al. (2011) • Jilke, Van Ryzin, & Van de Walle (2016)	• Aust et al. (2013) • Bernisky, Huber, & Lenz (2012) • Shapiro et al. (2013)	• It is possible to have more than one worker from the same IP address (Gosling, Vazire, Srivastava, & John, 2004; Smith et al., 2015)
<b>Topic 7: Managing Relationships</b>					
• Thank workers and embed tasks with “meaning”—explain meaning of tasks they will complete	• Increase data quality • Pay alone isn’t enough—participants want “fun” studies	• Fleischer et al. (2015) • Matthijsse et al. (2015) • Paolacci & Chandler (2014)	• Brawley & Pury (2016) • Chandler & Kapelner (2013) • Chandler et al. (2014) • Lovett et al. (2018)	• N/A	• Questionable value of intrinsically motivating research
• Monitor discussion boards for chatter about your study	• Identify instances where the purpose of your study might be revealed (i.e., deception or manipulation) • Boost confidence in stable unit treatment value assumption	• Chandler et al. (2014) • Cheung et al. (2017) • Goodman & Paolacci (2017) • Horton et al. (2011) • Keith et al. (2017)	• Horton et al. (2011) • Rogstadus, Kostakos, Kittur, Smus, Laredo, & Vukovic (2011) • Schmidt (2015) • Wessling et al. (2017)	• N/A	• The low base rate of problematic chatter could render this recommendation an inefficient use of time
• Avoid experiments involving deception and consider guaranteeing you will not use deception in your studies	• Foster trust between researchers and participants in general • There is a greater chance that participants have seen similar deception	• Horton et al. (2011) • Mason & Suri (2012) • Schmidt (2015)	• N/A	• N/A	• Deception may not be problematic if participants are debriefed
• Review formal OPP-specific guidelines and act ethically by, for example, clearly identifying yourself to participants, providing reasonable time estimates, paying as soon as possible, and maintaining lines of communication	• Foster good relations between researchers and participants • Ensure workers are able to make informed decisions about completing task • Avoid potential attrition • Avoid reputation damage to researcher • Enhance data quality	• Gleibs (2017) • Goodman & Paolacci (2017) • Keith et al. (2017) • Lovett et al. (2018) • Mason & Suri (2012) • Paolacci et al. (2010) • Stritch et al. (2017)	• Brawley & Pury (2016) • Lovett et al. (2018)	• N/A	• N/A
• Read forums to get a sense of OP participants and introduce yourself to the OP community via web forums if possible	• Provide researchers with a more realistic picture of the participants • Open the door to communication	• Goodman & Paolacci (2017) • Lovett et al. (2018) • Mason & Suri (2012) • Schmidt (2015) • Wessling et al. (2017)	• Lovett et al. (2018)	• N/A	• N/A
• Provide justifiable and concrete reasons to a participant if rejecting that participant’s work	• Prevent misunderstandings	• Cheung et al. (2017) • Gleibs (2017) • Harms & DeSimone (2015) • Paolacci et al. (2010)	• Brawley & Pury (2016)	• N/A	• N/A
<b>Topic 8: Compensation</b>					
• Pay a “fair” wage	• Ethical principle of justice • Goodwill	• Behrend et al. (2011) • Crone & Williams (2017)	• Crump et al. (2013)	• N/A	• Field must decide on what constitutes “fair” pay



	<ul style="list-style-type: none"> <li>• Faster recruiting</li> <li>• Participants are increasingly reliant on OPD for a sustainable source of income</li> </ul>	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Lovett et al. (2018)</li> <li>• Rouse (2015)</li> </ul>			<ul style="list-style-type: none"> <li>• Does “fair pay” result in best results?</li> </ul>
<ul style="list-style-type: none"> <li>• Pay an appealing—but not overly appealing—wage</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce likelihood of participants lying about characteristics</li> <li>• Recruit faster</li> </ul>	<ul style="list-style-type: none"> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Smith et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• Brawley &amp; Pury (2016)</li> <li>• Crump et al. (2013)</li> <li>• Rogstadius et al. (2011)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Trouble defining “overly appealing” wages</li> </ul>
<ul style="list-style-type: none"> <li>• Pay a low wage—or at least avoid enticing monetary incentives</li> </ul>	<ul style="list-style-type: none"> <li>• OPPs are a “bottom shelf” market</li> <li>• Participants usually don’t rely on wages.</li> <li>• Participants are not forced to work</li> <li>• Low wages don’t impact results</li> <li>• Reduce chances that workers lie about qualifications</li> </ul>	<ul style="list-style-type: none"> <li>• Crone &amp; Williams (2017)</li> <li>• Mason &amp; Suri (2012)</li> <li>• Paolacci et al. (2010)</li> <li>• Smith et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• Buhrmester et al. (2011)</li> <li>• Chandler et al. (2014)</li> <li>• Mason &amp; Watts (2009)</li> </ul>	<ul style="list-style-type: none"> <li>• Aker, El-Haj, Albakour, &amp; Kruschwitz (2012)</li> <li>• Lovett et al. (2018)</li> </ul>	<ul style="list-style-type: none"> <li>• Ethical implications—just because low wages do not impact results does not make it ethical to pay low wages</li> <li>• Some evidence indicates low pay does hurt results</li> </ul>
<ul style="list-style-type: none"> <li>• Pay at least median reservation wage (e.g., \$1.38/hour)</li> </ul>	<ul style="list-style-type: none"> <li>• Presumed fairness</li> </ul>	<ul style="list-style-type: none"> <li>• Behrend et al. (2011)</li> <li>• Paolacci et al. (2010)</li> </ul>	<ul style="list-style-type: none"> <li>• Horton &amp; Chilton (2010)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• This is a target that changes with time and perhaps across OPPs</li> </ul>
<ul style="list-style-type: none"> <li>• Pay U.S. Federal minimum wage (i.e., \$7.25/hour)</li> </ul>	<ul style="list-style-type: none"> <li>• Lower pay than physical lab because less involved, but fair</li> </ul>	<ul style="list-style-type: none"> <li>• Goodman &amp; Paolacci (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively high pay may encourage dishonesty</li> </ul>
<ul style="list-style-type: none"> <li>• Pay participants whatever going market rate is (e.g., \$2/hour)</li> </ul>	<ul style="list-style-type: none"> <li>• Pay rates do not affect the quality of data</li> </ul>	<ul style="list-style-type: none"> <li>• Stritch et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• The “market rate” may not be considered “fair”</li> </ul>
<ul style="list-style-type: none"> <li>• Increase compensation when follow-up timeframes increase or more effort is required on the part of the participant</li> </ul>	<ul style="list-style-type: none"> <li>• Improve retention rate</li> </ul>	<ul style="list-style-type: none"> <li>• Behrend et al. (2011)</li> <li>• Goodman &amp; Paolacci (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	
<ul style="list-style-type: none"> <li>• Use a “hook” strategy where difficult upfront tasks that pay more must be completed before easy tasks are offered (total payment forfeited if entire study is not completed)</li> </ul>	<ul style="list-style-type: none"> <li>• Improve retention rate</li> </ul>	<ul style="list-style-type: none"> <li>• Keith et al. (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Horton et al. (2011)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Participants may feel misled or trapped in a study when sunk costs are involved</li> </ul>
<b>Topic 9: Reporting</b>					
<ul style="list-style-type: none"> <li>• Be transparent with regard to materials used in your study and the methods used to recruit participants</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid potential for arbitrary design choices to influence sample composition</li> </ul>	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> <li>• Paolacci &amp; Chandler (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Report the amount of compensation participants received and the average study completion time</li> </ul>	<ul style="list-style-type: none"> <li>• Transparency</li> <li>• Future meta-analyses of payment on sample characteristics</li> </ul>	<ul style="list-style-type: none"> <li>• Keith et al. (2017)</li> <li>• Paolacci et al. (2010)</li> </ul>	<ul style="list-style-type: none"> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• If using attention checks or similar indicators to screen for quality, report results both before and after screening techniques were applied</li> </ul>	<ul style="list-style-type: none"> <li>• Increased transparency and understand impact of data screening on research</li> </ul>	<ul style="list-style-type: none"> <li>• Cheung et al. (2017)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• Chandler et al. (2014)</li> <li>• Cheung et al. (2017)</li> <li>• Keith et al. (2017)</li> <li>• Ran et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>



<ul style="list-style-type: none"> <li>• Collect and report the following: demographics; compensation; the participant's country of residence; and how non-naïveté was handled</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid relying on prior research for sample representativeness of OPP as a whole</li> <li>• Increase transparency</li> </ul>	<ul style="list-style-type: none"> <li>• Shapiro et al. (2013)</li> <li>• Chandler et al. (2014)</li> <li>• Goodman &amp; Paolacci (2017)</li> <li>• Keith et al. (2017)</li> <li>• Paolacci &amp; Chandler (2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Keith et al. (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Topic 10: Institutional Responsibilities</b>					
<ul style="list-style-type: none"> <li>• Journals should offer clear instructions to authors on reporting of survey response rates and how to address nonresponse</li> </ul>	<ul style="list-style-type: none"> <li>• Continue examining evidence of sampling error</li> </ul>	<ul style="list-style-type: none"> <li>• Fisher &amp; Sandell (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<ul style="list-style-type: none"> <li>• Reviewers and editors should create standards for "low quality" data screening and reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Researchers can adopt a screening method—a priori—based on recommendations</li> </ul>	<ul style="list-style-type: none"> <li>• Ran et al. (2015)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• There might not be a "one size fits all" standard for screening</li> <li>• Screening may be unnecessary</li> </ul>
<ul style="list-style-type: none"> <li>• Journals should require authors to report pay and the average length of the study</li> </ul>	<ul style="list-style-type: none"> <li>• Better understanding of pay per hour</li> </ul>	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Unclear if minimum wage is problematic</li> </ul>
<ul style="list-style-type: none"> <li>• Universities/departments should provide funding to pay participants at least minimum wage</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid exploiting workers</li> </ul>	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Unclear if minimum wage is "too attractive" and could be problematic</li> </ul>
<ul style="list-style-type: none"> <li>• Internal Review Boards should consider fair pay</li> </ul>	<ul style="list-style-type: none"> <li>• Protect participants and adhere to ethical standards</li> </ul>	<ul style="list-style-type: none"> <li>• Gleibs (2017)</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Many IRB members feel that any monetary payment is undue influence (Klitzman, 2013; Largent, Grady, Miller, &amp; Wertheimer 2012)</li> </ul>

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

1

## SUPPLEMENTAL MATERIALS

## COMPREHENSIVE LIST OF ARTICLES INCLUDED IN APPENDIX A

- Aker, A., El-Haj, M., Albakour, M. D., & Kruschwitz, U. 2012. Assessing crowdsourcing quality through objective tasks. *Proceedings of the Language Resources and Evaluation Conference*: 1456–1461.
- Alonso, O., & Mizzaro, S. 2012. Using crowdsourcing for TREC relevance assessment. *Information Processing & Management*, 48: 1053–1066.
- Aust, F., Diedenhofen, B., Ullrich, S., & Musch, J. 2013. Seriousness checks are useful to improve data validity in online research. *Behavior Research Methods*, 45: 527–535.
- Barger, P., Behrend, T. S., Sharek, D. J., & Sinar, E. F. 2011. IO and the crowd: Frequently asked questions about using Mechanical Turk for research. *The Industrial-Organizational Psychologist*, 49: 11–17.
- Behrend, T. S., Sharek, D. J., Meade, A. W., & Wiebe, E. N. 2011. The viability of crowdsourcing for survey research. *Behavior Research Methods*, 43: 800–813.
- Berinsky, A. J., Huber, G. A., & Lenz, G. S. 2012. Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, 20: 351–368.
- Brawley, A. M., & Pury, C. L. 2016. Work experiences on MTurk: Job satisfaction, turnover, and information sharing. *Computers in Human Behavior*, 54: 531–546.
- Buhrmester, M., Kwang, T., & Gosling, S. D. 2011. Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6: 3–5.
- Chandler, D., & Kapelner, A. 2013. Breaking monotony with meaning: Motivation in crowdsourcing markets. *Journal of Economic Behavior & Organization*, 90: 123–133.

Chandler, J., Mueller, P., & Paolacci, G. 2014. Nonnaïveté among Amazon Mechanical Turk workers: Consequences and solutions for behavioral researchers. *Behavior Research Methods*, 46: 112–130.

Chandler, J., Paolacci, G., Peer, E., Mueller, P., & Ratliff, K. A. 2015. Using nonnaive participants can reduce effect sizes. *Psychological Science*, 26: 1131–1139.

Chandler, J., & Shapiro, D. 2016. Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology*, 12: 53–81.

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. 2017. Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business Psychology*, 32: 347–361.

Chilton, L. B., Horton, J. J., Miller, R. C., & Azenkot, S. 2010. Task search in a human computation market. *Proceedings of the Association for Computing Machinery Special Interest Group of Knowledge Discovery and Data Mining Workshop on Human Computation*:1–9.

Clifford, S., & Jerit, J. 2014. Is there a cost to convenience? An experimental comparison of data quality in laboratory and online studies. *Journal of Experimental Political Science*, 1: 120–131.

Crone, D.L., & Williams, L.A. 2017. Crowdsourcing participants for psychological research in Australia: A test of microworkers. *Australian Journal of Psychology*, 69: 39–47.

Crump, M. J., McDonnell, J. V., & Gureckis, T. M. 2013. Evaluating Amazon's Mechanical Turk as a tool for experimental behavioral research. *PloS one*, 8, e57410.

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

3

Downs, J. S., Holbrook, M. B., & Peel, E. 2012. *Screening participants on Mechanical Turk:*

*Techniques and justifications*. Paper presented at the Annual Conference of the

Association for Consumer Research: 113–114.

Feitosa, J., Joseph, D. L., & Newman, D. A. 2015. Crowdsourcing and personality measurement

equivalence: A warning about countries whose primary language is not

English. *Personality and Individual Differences*, 75: 47–52.

Fisher, G. G., & Sandell, K. 2015. Sampling in Industrial–Organizational Psychology research:

Now what? *Industrial and Organizational Psychology*, 8: 232–237.

Fleischer, A., Mead, A. D., & Huang, J. 2015. Inattentive responding in MTurk and other online

samples. *Industrial and Organizational Psychology*, 8: 196–202.

Gleibs, I. H. 2017. Are all “research fields” equal? Rethinking practice for the use of data from

crowdsourcing market places. *Behavior Research Methods*, 49: 1333–1342.

Goodman, J. K., Cryder, C. E., & Cheema, A. 2013. Data collection in a flat world: The

strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision*

*Making*, 26: 213–224.

Goodman, J. K., & Paolacci, G. 2017. Crowdsourcing consumer research. *Journal of Consumer*

*Research*, 44: 196–210.

Görizt, A. S. 2007. Using online panels in psychological research. In A. N. Joinson, K. Y. A.

McKenna, T. Postmes, & U. -D. Reips (Eds.), *The Oxford Handbook of Internet*

*Psychology*: 473–485. Oxford, England: Oxford University Press.

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. 2004. Should we trust web-based

studies? A comparative analysis of six preconceptions about internet

questionnaires. *American Psychologist*, 59: 93–104.

ONLINE PANEL DATA IN MANAGEMENT RESEARCH

4

- Harms, P. D., & DeSimone, J. A. 2015. Caution! MTurk workers ahead—fines doubled. *Industrial and Organizational Psychology*, 8: 183–190.
- Hauser, D. J., & Schwarz, N. 2016. Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, 48: 400–407.
- Horton, J. J., & Chilton, L. B. 2010. The labor economics of paid crowdsourcing. *Proceedings of the 11th ACM Conference on Electronic Commerce*: 209–218.
- Horton, J. J., Rand, D. G., & Zeckhauser, R. J. 2011. The online laboratory: Conducting experiments in a real labor market. *Experimental Economics*, 14: 399–425.
- Huang, J. L., Curran, P. G., Keeney, J., Poposki, E. M., & DeShon, R. P. 2012. Detecting and deterring insufficient effort responding to surveys. *Journal of Business and Psychology*, 27: 99–114.
- Huang, J. L., Bowling, N. A., Liu, M., & Li, Y. 2015. Detecting insufficient effort responding with an infrequency scale: Evaluating validity and participant reactions. *Journal of Business and Psychology*, 30: 299–311.
- Huang, J. L., Liu, M., & Bowling, N. A. 2015. Insufficient effort responding: Examining an insidious confound in survey data. *Journal of Applied Psychology*, 100: 828–845.
- Jilke, S., Van Ryzin, G. G., & Van de Walle, S. 2016. Responses to decline in marketized public services: An experimental evaluation of choice overload. *Journal of Public Administration Research and Theory*, 26: 421–432.
- Keith, M. G., Tay, L., & Harms, P. D. 2017. Systems perspective of Amazon Mechanical Turk for organizational research: Review and recommendations. *Frontiers in Psychology*, 8: 1–9.

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

5

- 1  
2  
3 Klitzman, R. 2013. How IRBs view and make decisions about coercion and undue  
4 influence. *Journal of Medical Ethics*, 39: 224–229.  
5  
6  
7  
8 Landers, R. N., & Behrend, T. S. 2015. An inconvenient truth: Arbitrary distinctions between  
9 organizational, Mechanical Turk, and other convenience samples. *Industrial and*  
10  
11  
12  
13  
14  
15 Largent, E. A., Grady, C., Miller, F. G., & Wertheimer, A. 2012. Money, coercion, and undue  
16 inducement: A survey of attitudes about payments to research participants. *IRB: Ethics &*  
17  
18  
19  
20  
21  
22 Lease, M., Hullman, J., Bigham, J. P., Bernstein, M., Kim, J., Lasecki, W. S., Bakhshi, S., Mitra,  
23  
24 T., & Miller, R. C. 2013. Mechanical Turk is not anonymous.  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60
- http://dx.doi.org/10.2139/ssrn.2228728.
- Litman, L., Robinson, J., & Rosenzweig, C. 2015. The relationship between motivation, monetary compensation, and data quality among US-and India-based workers on Mechanical Turk. *Behavior Research Methods*, 47: 519–528.
- Litman, L., Robinson, J., & Abberbock, T. 2017. TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior Research Methods*, 49: 433–442.
- Lovett, M., Bajaba, S., Lovett, M., & Simmering, M. J. 2018. Data quality from crowdsourced surveys: A mixed method inquiry into perceptions of Amazon's Mechanical Turk masters. *Applied Psychology*, 67: 339–366.
- Mason, W., & Suri, S. 2012. Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods*, 44: 1–23.

- Mason, W., & Watts, D. J. 2009. Financial incentives and the “performance of crowds.” *Proceedings of the Association for Computing Machinery Special Interest Group of Knowledge Discovery and Data Mining Workshop on Human Computation*: 77–85.
- Matthijsse, S. M., De Leeuw, E. D., & Hox, J. J. 2015. Internet panels, professional respondents, and data quality. *Methodology*, 11: 81–88.
- McGonagle, A. K. (2015). Participant motivation: A critical consideration. *Industrial and Organizational Psychology*, 2: 208-214.
- Meade, A. W., & Craig, S. B. 2012. Identifying careless responses in survey data. *Psychological Methods*, 17: 437–455.
- Miller, J. D., Crowe, M., Weiss, B., Maples-Keller, J. L., & Lynam, D. R. 2017. Using online, crowdsourcing platforms for data collection in personality disorder research: The example of Amazon’s Mechanical Turk. *Personality disorders: Theory, research, and treatment*, 8: 26–34.
- Ng, T. W., & Feldman, D. C. 2012. The effects of organizational and community embeddedness on work-to-family and family-to-work conflict. *Journal of Applied Psychology*, 97: 1233–1251.
- Ng, T. W., & Feldman, D. C. 2015. Idiosyncratic deals and voice behavior. *Journal of Management*, 41: 893–928.
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. 2009. Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45: 867–872.

## ONLINE PANEL DATA IN MANAGEMENT RESEARCH

7

- Paolacci, G., & Chandler, J. 2014. Inside the Turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science*, 23: 184–188.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. 2010. Running experiments on Amazon Mechanical Turk. *Judgement and Decision Making*, 5: 411–419.
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. 2017. Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, 70: 153–163.
- Peer, E., Vosgerau, J., & Acquisti, A. 2014. Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior Research Methods*, 46: 1023–1031.
- Peterson, R. A., & Merunka, D. R. 2014. Convenience samples of college students and research reproducibility. *Journal of Business Research*, 67: 1035–1041.
- Ran, S., Liu, M., Marchiondo, L. A., & Huang, J. L. 2015. Difference in response effort across sample types: Perception or reality?. *Industrial and Organizational Psychology*, 8: 202–208.
- Rogstadius, J., Kostakos, V., Kittur, A., Smus, B., Laredo, J., & Vukovic, M. 2011. *An assessment of intrinsic and extrinsic motivation on task performance in crowdsourcing markets*. Paper presented at the 5th International AAAI Conference on Weblogs and Social Media.
- Rouse, S. V. 2015. A reliability analysis of Mechanical Turk data. *Computers in Human Behavior*, 43: 304–307.
- Schmidt, G. B. 2015. Fifty days an MTurk worker: The social and motivational context for Amazon Mechanical Turk workers. *Industrial and Organizational Psychology*, 8: 165–171.



ONLINE PANEL DATA IN MANAGEMENT RESEARCH

8

Shapiro, D. N., Chandler, J., & Mueller, P. A. 2013. Using Mechanical Turk to study clinical populations. *Clinical Psychological Science*, 1: 213–220.

Sharpe Wessling, K., Huber, J., & Netzer, O. 2017. MTurk character misrepresentation: Assessment and solutions. *Journal of Consumer Research*, 44: 211–230.

Simmons, J. P., Nelson, L. D., & Simonsohn, U. 2011. False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science*, 22: 1359–1366.

Smith, N. A., Sabat, I. E., Martinez, L. R., Weaver, K., & Xu, S. 2015. A convenient solution: Using MTurk to sample from hard-to-reach populations. *Industrial and Organizational Psychology*, 8: 220–228.

Sprouse, J. 2011. A validation of Amazon Mechanical Turk for the collection of acceptability judgments in linguistic theory. *Behavior Research Methods*, 43: 155–167.

Stritch, J. M., Pedersen, M. J., & Taggart, G. 2017. The opportunities and limitations of using Mechanical Turk (Mturk) in public administration and management scholarship. *International Public Management Journal*, 20: 489–511.

Woo, S. E., Keith, M., & Thornton, M. A. 2015. Amazon Mechanical Turk for industrial and organizational psychology: Advantages, challenges, and practical recommendations. *Industrial and Organizational Psychology*, 8, 171–179.

Woods, C. M. 2006. Careless responding to reverse-worded items: Implications for confirmatory factor analysis. *Journal of Psychopathology and Behavioral Assessment*, 28: 189–194.