The Neglected Science and Art of Quasi-Experimentation: Why-to, When-to, and How-to Advice for Organizational Researchers

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The Neglected Science and Art of Quasi-Experimentation

Why-to, When-to, and How-to Advice for Organizational Researchers

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Although quasi-experiments can facilitate causal inferences by combining good internal validity with high external validity, organizational scholars underutilize them. In this article, the authors aim to encourage the novel use of quasi-experimentation by identifying five of its key benefits: (a) strengthening causal inference when random assignment and controlled manipulation are not possible or ethical; (b) building better theories of time and temporal progression; (c) minimizing ethical dilemmas of harm, inequity, paternalism, and deception; (d) facilitating collaboration with practitioners; and (e) using context to explain conflicting findings. We offer advice and illustrative examples to guide future research, and provide recommendations for gaining access to organizations to open doors for collaborating on quasi-experiments.

Keywords: *quasi-experiments; field experiments; causal inference; organizational behavior; organizational psychology*

The experimental method is an invaluable resource for building, refining, accumulating, and applying knowledge about organizational life. Experiments make it possible for organizational scholars to draw causal inferences: to determine cause and effect, identify active ingredients, and rule out alternative explanations (Cook & Campbell, 1979). Indeed, experiments provided the foundation of many of the classic investigations in organizational research into issues such as the Hawthorne effect (Roethlisberger & Dickson, 1939), bounded rationality and administrative decision making (March & Simon, 1958; Simon, 1947), leadership (Lewin, Lippit, & White, 1939), participative decision making (Morse & Reimer, 1956), and sensemaking (Weick, 1979). More recently, experiments have guided the development of many of the key theoretical principles and empirical effects in organizational scholarship, including the effects of pay and incentive

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compensation on productivity (see Rynes, Gerhart, & Minette, 2004); the performance benefits of setting specific, difficult goals (Locke & Latham, 2002); the effects of leader and supervisor expectations on performance (Eden, 1984, 2003); the impact of job design on employee attitudes, behaviors, and health (Griffin, 1991; Morgeson & Campion, 2002); and employees' responses to inequity and injustice (Greenberg, 1990).

Despite its advantages, however, many organizational scholars shy away from the experimental method (Highhouse, in press). A common critique of experiments is that because they often take place in the laboratory, they create only a "science of the sophomore," lacking generalizability to the employees and organizational phenomena that matter to our research (e.g., Gordon, Slade, & Schmitt, 1986). Researchers have also criticized laboratory experiments for a lack of external validity by arguing that they test "not whether a hypothesis is true, but rather whether the experimenter is a sufficiently ingenious stage manager to produce in the laboratory conditions which demonstrate that an obviously true hypothesis is correct" (McGuire, 1973, p. 449).

True field experiments transcend these concerns about external validity by maintaining fidelity to the employees and organizational phenomena of interest. However, true field experiments often involve tradeoffs between internal and external validity. To maximize internal validity, researchers carry out random assignment and the deliberate manipulation of variables, which may change the nature of the phenomenon and thereby undermine external validity (Argyris, 1975). It is difficult to randomly assign participants to treatment groups in the field (Evans, 1976), and even when this is accomplished, it may affect the authenticity of the independent variable (Argyris, 1975). For example, randomly allocating people to teams may produce an artificial social situation that does not provide the complementary skills, interpersonal compatibility, and elements of self-selection that are present in natural team formation. Moreover, participants often become aware of the treatments given to participants in other groups, which can influence their psychological and behavioral responses (Cook & Campbell, 1979). Experimenters also introduce expectancies that can bias participants' responses apart from the variables being manipulated (Eden, 1984, 2003; Orne, 1962; Rosenthal, 1994). Summarizing these concerns, Lawler (1977, p. 577) noted that "the methodological requirements of traditional experiments fail to mesh with the realities of life in organizations."

Thus, although true field experiments have many strengths, they are not always feasible because of two primary obstacles (e.g., Cook & Campbell, 1979; Greenberg & Tomlinson, 2004; McGrath, 1981). The first is a lack of opportunity for experimenters to control random assignment to treatment conditions (Lawler, 1977). Many organizational interventions affect different groups of people, making it difficult to rule out self-selection, manager-selection, and site-level differences as alternative explanations for their effects (Weiss & Rein, 1970). The second obstacle is a lack of experimenter control over key variables. Many variables of interest, such as CEO tenure, board composition, team diversity, and human resource practices, simply cannot be manipulated or influenced by an experimenter (McGrath, 1981). Even when variables of interest can be manipulated, organizations do not hold still, making it difficult for researchers to isolate key causal factors and rule out alternative explanations for changes observed (Hackman, 1985).

More than four decades ago, Campbell and Stanley (1966) introduced the notion of quasi-experimentation as a means of addressing such obstacles. The quasi-experiment offers

many of the benefits of the true field experiment for strengthening causal inference in settings with high external validity while relaxing the requirements for experimenter control over random assignment to treatment conditions and manipulations of independent variables. Unfortunately, quasi-experimentation is rapidly becoming a lost science and art in organizational scholarship (Hollenbeck, 2002). Our objective in this article is to challenge organizational scholars to embrace a renewed focus on quasi-experimentation. We seek to do so by identifying five of its key benefits for organizational research and by providing advice and illustrative examples to stimulate the reader's imagination and motivation to develop novel uses of this approach.

Quasi-Experimentation in Organizational Research

The objective of quasi-experimentation is to strengthen causal inference while maintaining internal and external validity without interrupting "real life" through intrusive intervention (Campbell & Stanley, 1966; Cook & Campbell, 1979; Webb, Campbell, Schwartz, & Sechrest, 1966). A quasi-experiment is a study that takes place in a field setting and involves a change in a key independent variable of interest but relaxes one or both of the defining criteria of laboratory and field experiments: random assignment to treatment conditions and controlled manipulation of the independent variable.[1] Quasi-experiments thus include experimenter-controlled and manager-controlled interventions in which random assignment is not achieved, such as when treatments are assigned to intact or preexisting groups. Quasi-experiments also include changes to an independent variable that are naturally occurring rather than manipulated. As Evans (1976) explained, "Often this type of research is an opportunistic process. One finds out about an organizational experiment and 'parachutes in' to find out about its impact" (p. 99).

Quasi-experiments in organizations have a short history but a long past. Although Campbell and colleagues did not formally develop the methodology until the 1960s and 1970s (Campbell & Stanley, 1966; Cook & Campbell, 1979), quasi-experiments were inspired by a series of earlier methodological innovations. For example, in the classic Hawthorne experiments, researchers collaborated with practitioners to introduce changes in lighting and working conditions, and used pretest–posttest measures of productivity to examine their effects (Roethlisberger & Dickson, 1939; see also Hsueh, 2002). Similarly, the research that Kurt Lewin and colleagues conducted at Harwood featured many early instantiations of quasi-experimentation. As Burnes (2007) has described, the Harwood experiments involved controlled manipulation of independent variables with experimental and control groups, and systematic analysis of changes in dependent variables in terms of objective performance and meeting transcripts. Both the Hawthorne and Harwood experiments would now be described as quasi-experimental, as they involved controlled manipulations of independent variables in the field, but not random assignment of participants to treatment conditions.

Despite their potential value, quasi-experiments are rarely used in organizational research. In a recent review of methodology in management and organizational research, Scandura and Williams (2000) lumped field experiments and quasi-experiments into one category. This was necessary because together they comprised only 2% to 4% of the articles published in the *Academy of Management Journal* (*AMJ*), *Administrative Science Quarterly*

(*ASQ*), and the *Journal of Management* from 1985 to 1987 and 1995 to 1997. Because Scandura and Williams did not divide field experiments and quasi-experiments into separate categories, we sought to examine the prevalence of quasi-experiments in two top interdisciplinary organizational research journals: *AMJ* and *ASQ*. We selected these two journals because they are recognized as two of the most prominent empirical research journals in the field, and they span the boundaries between "micro" and "macro" (Conlon, Morgeson, McNamara, Wiseman, & Skilton, 2006). We focused on the past 25 years, from 1982 to 2006, using the search terms of "quasi-experiment," "quasi-experimental," and related terms such as "field experiment" and "change study"; we also examined every article that cited Campbell and Stanley (1966) or Cook and Campbell (1979). We identified a total of only 23 quasi-experiments published in these two journals in the past quarter-century, an average of less than one per year. Nearly half of these studies (11) were published in the first 5 years of this interval. In the following 20-year period, researchers published only 12 quasi-experiments in *AMJ* and *ASQ* combined (see Table 1).

Because quasi-experiments were developed by researchers with psychological orientations (Campbell & Stanley, 1966; Cook & Campbell, 1979), it is plausible that they are published more often by such researchers. To investigate this possibility, we counted the number of quasi-experiments published in the same 25-year period in six journals that specialize in publishing organizational research in the areas of applied psychology and micro organizational behavior: *Journal of Applied Psychology* (*JAP*), *Personnel Psychology* (*PPsych*), *Organizational Behavior and Human Decision Processes* (*OBHDP*), *Journal of Organizational Behavior* (*JOB*), *Journal of Management* (*JoM*), and *Journal of Applied Behavioral Science* (*JABS*). We found a total of 30 quasi-experiments in *JAP*, 18 in *PPsych*, 2 in *OBHDP*, 5 in *JOB*, 1 in *JoM*, and 7 in *JABS*. Although it may appear that quasi-experiments were published more frequently in *JAP* and *PPsych* than the other journals, it is worth noting that *JAP* published more than twice as many total articles during this period than any of the other journals that we examined, and that *PPsych* published a special issue on quasi-experimentation in 2002 that attracted 5 of its 18 quasi-experiments. Thus, our analysis of six applied psychology and micro-organizational behavior journals suggested that quasi-experiments are extremely rare, appearing in less than 1% of all articles published in these journals.

One explanation for this paucity of quasi-experiments in organizational research is that scholars lack the means-efficacy and self-efficacy to conduct them (see Eden, 2003). To use this method effectively, we need to believe in the value and capabilities of the method itself (means-efficacy) as well as in our own personal capabilities to implement it effectively (self-efficacy). Examining the literature on quasi-experimentation, it is apparent that organizational scholars have offered considerable "how-to" guidance on the operational steps for designing rigorous quasi-experiments that convincingly test theories and rule out alternative explanations (Campbell & Stanley, 1966; Cook & Campbell, 1979; Cook, Campbell, & Peracchio, 1990; Shadish, Cook, & Campbell, 2002) in ways that achieve both internal and external validity (Highhouse, in press). However, methodologists have offered comparatively little "why-to" and "when-to" guidance to identify the potential benefits of carrying out quasi-experiments and the circumstances that are conducive to doing so. Our article is directed toward filling this gap by highlighting five key benefits of quasi-experimentation for advancing organizational theory, research, and practice. We

Table 1
Quasi-Experiments in the *Academy of Management Journal* and *Administrative Science Quarterly*, 1982-2006

Study Authors	Research Question	Change in the Independent Variable
Meyer (1982)	Effect of environmental jolts on adaptation	Doctors' strike in a hospital
Chisholm et al. (1983)	Effect of crisis situations on job tension	Nuclear accident at one plant but not another
Delacroix and Carroll (1983)	Impact of internal population dynamics and external events on organizational foundings	Political turbulence during founding of newspaper in Argentina but not Ireland
Kim (1984)	Effect of behavior and outcome goals and feedback on satisfaction and performance	Four branches of a retail organization implementing goal-setting and feedback interventions with salespeople
Carroll (1984)	Effect of founder succession on organizational survival	Publisher succession in newspaper organizations
Krackhardt and Porter (1985)	Impact of turnover on those who stay	Natural turnover of coworkers and friends
Buller and Bell (1986)	Effects of team building and goal setting on productivity	Rock-mining organization introducing team building and goal setting
Joyce (1986)	Effect of matrix structure on organizational processes, role perceptions, and work attitudes	Reorganization of the engineering division of an aircraft manufacturing firm, with the drafting division as a nonequivalent control group
Singh, Tucker, and House (1986)	Impact of external legitimacy and internal coordination on organizational survival	The issuing and loss of charitable registration numbers to Canadian firms
Wall et al. (1986)	Effect of autonomous workgroups on job satisfaction, motivation, and performance	Company introducing autonomous workgroups
Mathieu and Leonard (1987)	Effect of supervisor skills training on performance ratings	Bank in which some employees had attended supervisor skills training programs and others had not
Griffin (1988)	Effect of quality circles on attitudes, behaviors, and effectiveness	Company implementing quality circles in one plant but not another
Martin and Wall (1989)	Impact of attentional demand and cost responsibility on psychological strain	Naturally occurring differences in job design and a job rotation system implemented by managers in the drilling department of an electronics manufacturing company
Dalton and Mesch (1990)	Effect of flexible scheduling on withdrawal	A large public utility company introduced, and then discontinued, a flexible scheduling program in a subunit

(Continued)

Table 1
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Study Authors	Research Question	Change in the Independent Variable
Haveman (1993)	Impact of organizational size on change	The deregulation in the California savings and loan industry
Taylor et al. (1995)	Effect of due-process performance appraisal systems on employee and manager reactions	Employee-manager pairs assigned to a due-process appraisal system or a traditional appraisal system
Wageman (1995)	Impact of interdependence on group effectiveness	Reward system intervention created group, individual, and hybrid rewards for teams of Xerox technicians working on group, individual, and hybrid tasks
Welbourne and Balkin (1995)	Effect of justice perceptions in a gain-sharing plan on mutual monitoring	Two independent firms introducing gain-sharing plans with different programs and bonus payouts
Allmendinger and Hackman (1996)	Effect of environmental change on organizational adaptation	Radical social and political change in East Germany that differed from that in West Germany
Lam and Schaubroeck (2000)	Role of locus of control in attitudinal and behavioral reactions to promotion decisions	Promotion acceptance and rejection decisions at an international bank
Hui, Lam, and Schaubroeck (2001)	Effect of training "good organizational citizens" as change agents on unit-level service quality	Training service quality leaders at some branches of a multinational bank but not others
Stajkovic and Luthans (2001)	Effect of different types of incentive motivators on work performance	An operations division assigned supervisors of different shifts to provide routine pay for performance, monetary incentives, social recognition, or performance feedback
Benner and Tushman (2002)	Effect of process management on technological innovation	Introduction of quality program certifications at different times in the photography and paint industries

illustrate each of these benefits with examples from the few quasi-experiments that have appeared in the organizational research literature, conducted predominantly by a small subset of applied psychologists. We hope that these benefits and examples will provide "why-to" and "when-to" implementation knowledge that will inspire organizational scholars to use quasi-experiments more frequently to achieve good internal and external validity in their own investigations. Our focus on quasi-experimentation is particularly timely in light of recent advances in technology and telecommuting arrangements, which have made it possible to carry out quasi-experiments using the Internet, cell phones, and personal digital assistants regardless of physical location (in the office, on the road, or at home). These changes have equipped researchers with new tools for conducting quasi-experiments that achieve high levels of fidelity to the settings that we are ultimately interested in studying.

The Benefits of Quasi-Experimentation

Through a series of discussions and our review of published quasi-experiments, we identified five key benefits of quasi-experimentation in organizational research. Below, we discuss how quasi-experimentation can enable organizational researchers to (a) strengthen casual inferences when random assignment and controlled manipulation are not possible or ethical; (b) build better theories of time and temporal progression; (c) minimize ethical dilemmas of harm, inequity, paternalism, and deception; (d) collaborative constructively with practitioners; and (e) use context to explain conflicting findings.

Benefit 1: Strengthening Causal Inferences When Random Assignment and Controlled Manipulation Are Not Possible or Ethical

For some independent variables, true field experiments are quite feasible and noninvasive. For example, in the case of training, researchers may conduct true field experiments by sending executives to development programs at different times. However, organizational researchers often wish to test a causal hypothesis when it is not practical or ethical to randomly assign participants to different conditions with controlled manipulations of independent variables. In the following paragraphs, we describe how many macroscopic variables, negative events, and beneficial treatments can be of this nature and how the quasi-experiment is a viable solution, albeit one that may take considerable time and effort.

Macroscopic variables. Many researchers are interested in studying the impact of macroscopic variables that are impossible to control, manipulate, and randomly assign. Accordingly, researchers can—and have—used quasi-experiments to strengthen causal inferences by examining the effects of naturally occurring changes in macroscopic variables such as organizational size (Haveman, 1993), founder successions (Carroll, 1984), political events (Allmendinger & Hackman, 1996; Delacroix & Carroll, 1983), military drafts (Staw, 1974), and weather (Smith, 1977). Quasi-experiments make it possible for researchers to strengthen causal inferences about the impact of these macroscopic variables by offering greater internal validity than observational designs and greater external validity than laboratory experiments.

Negative events. Many researchers are interested in studying the impact of negative events that cause harm to employees and would thus be unethical to manipulate. In these situations, researchers can use, and have used, quasi-experiments to strengthen causal inferences by examining the effects of naturally occurring events such as nuclear accidents and crises (Chisholm, Kasl, & Eskenazi, 1983), layoffs and demotions (Lieberman, 1956), involuntary job transfers (Bateman, Karwan, & Kazee, 1983; Keller & Holland, 1981), procedurally unjust performance appraisal systems (Taylor, Tracy, Renard, Harrison, & Carroll, 1995), unfavorable contract changes and salary negotiations (Bretz & Thomas, 1992; Lord & Hohenfeld, 1979; Parker, Griffin, Sprigg, & Wall, 2002), union strikes (Stagner & Eflal, 1982), physician strikes (Meyer, 1982), impoverished jobs (Hackman, Pearce, & Wolfe, 1978), lean production (Parker, 2003), and computer-based orientation sessions (Wesson & Gogus, 2005). Accordingly, rather than carrying out interventions that may cause harm, researchers can use quasi-experiments to assess the effects of naturally occurring changes.

Beneficial treatments. Many researchers are interested in studying interventions that would involve unfair distribution of benefits to treatment groups if manipulated in controlled experiments via random assignment. In field experiments, the intervention groups frequently have access to a valued resource, outcome, or treatment that is not provided to the control or comparison groups (Lawler, 1977). Although this distribution of resources is often randomized in the interest of science, randomization is not synonymous with fairness: Researchers are still providing resources to some people yet withholding them from others. In these situations, researchers can and have used quasi-experiments to strengthen causal inferences by studying naturally occurring changes in benefits such as promotions (Hui, Lam, & Law, 2000), vacations (Westman & Eden, 1997), financial incentives (Peterson & Luthans, 2006), participative decision making (Lawler & Hackman, 1969), recognition programs (Markham, Scott, & McKee, 2002), and flexible working hours (Evans, 1976; Narayanan & Nath, 1982). By studying naturally occurring changes in these types of benefits, organizational researchers can avoid distributing them unfairly to some groups and not others.

Ruling out alternative explanations. In all of these situations, when random assignment to controlled treatment conditions is not practically or ethically feasible, carefully designed quasi-experiments allow researchers to strengthen causal inferences by ruling out alternative explanations via the judicious use of comparison groups and time. In the famous words of Sherlock Holmes, "When you have eliminated all which is impossible, then whatever remains, however improbable, must be the truth" (Doyle, 1926/1988, p. 556). For example, Lieberman (1956) was interested in the effects of roles on employees' attitudes. He observed that previous research had used cross-sectional links between roles and attitudes to claim that roles affect attitudes, failing to address an important, plausible rival explanation: Employees may have selected into roles based on preexisting attitudes. To assess this rival explanation, Lieberman conducted an ingenious quasi-experiment. In September and October 1951, he entered a home appliance production company and measured employees' attitudes. He then waited for naturally occurring changes in roles to occur. In the following 10 months, some employees were elected to

steward roles, and other employees were promoted to foreman roles. This created two different treatment groups (role changes from employee to steward or foreman) and two nonequivalent control groups of employees who were not elected or promoted to new roles. In December 1952, he measured the attitudes of employees in all four groups.

The results from this pretest–posttest, multiple-group design were impressive. The attitudes of employees in the nonequivalent control groups remained stable, whereas for the employees who changed roles, attitudes shifted significantly in the expected directions. Employees promoted to foreman roles developed more pro-management attitudes: They saw the company as a better place to work and viewed top managers and the incentive system more favorably. Employees elected to steward roles developed more pro-union attitudes: They perceived the union and its officers more favorably and came to see seniority as more important than ability as a determinant of promotion. This evidence partially eliminated selection based on preexisting attitudes as a rival explanation by demonstrating that employees who were elected or promoted displayed attitude changes corresponding with their new roles.

This study provides a powerful demonstration of the value of quasi-experimentation in situations in which random assignment to controlled treatments is not possible for practical or ethical reasons for strengthening causal inferences by ruling out alternative explanations. However, we recognize that quasi-experiments are often easier to appreciate in retrospect (''That was clever!'') than to generate in prospect. How do researchers devise novel quasi-experiments? We suggest that researchers ask themselves the following six questions:

1. What is the causal hypothesis of interest?
2. Where can I find a change in the independent variable that is occurring naturally or being induced in an organization?
3. Where and how can I measure the dependent variable before and after this change?
4. If my hypothesis is supported, what alternative explanations may account for it?
5. How can I use multiple comparison groups and multiple measurement occasions to rule out (or support) these alternative explanations?
6. How can I be sufficiently familiar with relevant contexts to understand and capitalize on opportunities that arise?

How do these steps unfold prospectively? Below, we illustrate their application using an example inspired by an article recently published in *AMJ*. The article presents a cross-sectional study that sets the stage for a compelling quasi-experiment to rule out alternative explanations, as we explain below.

In an excellent article, Flynn (2003) argued that being generous causes employees to earn higher social status; giving enables employees to gain respect and demonstrate the value of their contributions. He presents support for this hypothesis with data from a sample of engineers, finding a positive cross-sectional relationship between multi-source measures of generosity judgments and social status perceptions. Although the theory and evidence are compelling, one might observe that the use of the term *effects* in the title is seductive but misleading. It is plausible that reverse causality is at play, such that status

perceptions increase generosity judgments, as people tend to believe that social status is earned through contributions (e.g., Hollander, 1958).

This rival explanation provides an answer to Question 1: What is my causal hypothesis?

This hypothesis could be tested in a quasi-experiment by searching for naturally occurring events that cause changes in status (Question 2). Because changes in status occur naturally when particular employees earn promotions and awards, researchers could identify an organization in which a promotion or award announcement was pending. They could then obtain pretest measures from multiple sources of candidates' levels of status as a manipulation check and use giving as the dependent variable (Question 3). They could then collect these measures again after the announcement of the promotion or award. If judgments of the promoted or awarded employees' generosity increased after the announcement, researchers could provisionally conclude that status perceptions influence generosity judgments.

Researchers would then turn to Questions 4 and 5: What alternative explanations may account for the pattern that status perceptions increase generosity judgments, and how can I strengthen my design to rule out these alternatives? One plausible alternative explanation is maturation—the notion that people tend to become more generous as they age (Caspi, Roberts, & Shiner, 2005; McAdams & de St. Aubin, 1992; Midlarsky & Hannah, 1989). According to this explanation, generosity judgments would tend to increase over time. To address this alternative explanation, researchers could examine changes in generosity judgments for candidates who did and did not receive the promotion or award. If the results showed that generosity judgments only increased for candidates who received the promotion or award, the maturation explanation would no longer be plausible, as all employees are aging at the same rate during the course of this study.

Another plausible alternative explanation is history, such that concurrent events, like actual increases in giving or announcements of giving, might have occurred along with the promotion or award announcement, in between the pretest and posttest. To address this alternative explanation, researchers could turn to Question 6: What do I know about the context that can help me here? Researchers might discover an opportunity to compare the department in which the promotion or award was announced with another department in which there was no such announcement or to compare the responses of employees who were more and less aware of the promotion or award announcement. If the results showed that changes in status perceptions were correlated with changes in generosity judgments, it would be likely that the changes in status perceptions caused by the promotion or award announcement, rather than a concurrent event, was responsible for the observed changes in generosity judgments.

It is important to note that the goal of this quasi-experiment would be to test the reverse-causality hypothesis that status perceptions increase generosity judgments. If this pattern were not supported, researchers could rule out this alternative hypothesis and gain confidence in Flynn's original hypothesis. If the pattern were supported, though, it would not rule out Flynn's hypothesis; it would merely show that status perceptions can affect generosity judgments, as well as vice-versa. To subject Flynn's causal hypothesis to quasi-experimentation, researchers would need to search for a naturally occurring change in giving behavior, such as the introduction of a new organizational intranet or virtual

community that enabled employees to share ideas across geographical boundaries. If the introduction of this system was associated with increases in status among employees who contributed frequently but not those who contributed infrequently, researchers could gain confidence that generosity increases status. They would then need to rule out alternative explanations, such as that generous employees may possess greater motivation, energy, or knowledge, skills, and abilities, all of which might increase their status by leading them to perform better. From this perspective, generosity would be an indicator of a set of capabilities that enhance status by facilitating performance, rather than a cause of giving behaviors that enhance status by building one's reputation.

With this line of logic, organizational researchers can minimize the tradeoffs frequently encountered in the space between laboratory and field experiments. The quasi-experiment allows researchers to strengthen causal inferences and to rule out alternative explanations while maintaining reasonable internal and external validity. We submit that researchers can devise novel uses of quasi-experiments by answering these six questions, and we hope that researchers will draw on this wisdom more frequently in future investigations.

Benefit 2: Building Better Theories of Time and Temporal Progression

A second benefit of quasi-experimentation is that it encourages researchers to build better theories of time and temporal progression. In recent years, organizational scholars have persistently called for systematic attention to time in theoretical frameworks and research designs (e.g., Ancona, Okhuysen, & Perlow, 2001; George & Jones, 2000; McGrath & Rotchford, 1983; Mitchell & James, 2001). A major challenge of enacting this advice is that we lack clear theoretical frameworks and strong empirical evidence to specify how and why a particular phenomenon should have an effect after a particular period of time or for a particular duration of time. In laboratory experiments, researchers often have access to participants for a short period of time, making it difficult to assess temporal patterns. In true field experiments, researchers often lack the opportunity to sustain a change or intervention over time, making it difficult to assess temporally extended effects of the key variables of interest. In any case, as argued previously, such experiments are impossible in many cases for practical or ethical reasons or may even compromise the nature the phenomenon under investigation (Argyris, 1975).

In contrast, quasi-experiments based on naturally occurring change—or change that becomes embedded into intact groups within the organization—are often more conducive to assessing temporal patterns. When changes are initiated by exogenous events or managerial decisions, they are more likely to persist over time. As a result, researchers can often conduct temporally extended evaluations in quasi-experiments that are not possible in laboratory or true field experiments. Indeed, Romanelli and Tushman (1986) asserted that longitudinal quasi-experiments are an invaluable resource for examining the relative impact of managers and environments on organizational activities. They outlined a quasi-experimental design that could be used to adjudicate and synthesize competing predictions from inertial, external control and strategic management models about persistence and change in organizational structures and outcomes over time. Along these lines, we suggest that researchers can use quasi-experimental methods to build theory about time.

For example, Wall, Kemp, Jackson, and Clegg (1986) were interested in the effects of autonomous workgroups. They capitalized on the introduction of autonomous workgroups into a new factory that a British company was building. The company hired a consultant to introduce autonomous workgroups, and Wall and colleagues were not involved the design and implementation process; they were merely responsible for independently evaluating its effects. They obtained nonequivalent control groups from within the same factory and from another other factory in the company, which resulted in a quasi-experimental design comparing autonomous and traditional workgroups. Wall and colleagues measured attitudinal and behavioral outcomes after 6, 18, and 30 months. During the course of the study, they anticipated that if they stayed in the organization long enough, managers would choose to either extend or abandon the autonomous workgroups. Indeed, managers did decide to introduce autonomous workgroups in an evening shift, presenting the opportunity for the researchers to assess a naturally occurring intervention with before-and-after measures.

The results for the introduction of autonomous workgroups showed long-term, lasting effects on intrinsic job satisfaction (attitudes toward the work itself) but more fleeting effects on extrinsic job satisfaction (attitudes toward working circumstances). Wall and colleagues (1986) were able to use these findings to strengthen theory about the temporal effects of autonomous workgroups. They argued that increases in intrinsic job satisfaction produced by autonomous workgroups can be expected to be sustained over time. Because intrinsic job satisfaction depends directly on the nature of the work that employees perform, it should maintain heightened levels as long as autonomy is sustained. In contrast, the effect of autonomous workgroups on extrinsic job satisfaction appears to be temporally bounded. The intrinsic job satisfaction attributable to autonomous workgroups may temporarily spill over to affect extrinsic job satisfaction, but employees are likely to adapt quickly to this change and to return to basing their levels of extrinsic job satisfaction on factors such as pay and working conditions. This study illustrates how the quasi-experimental method enabled researchers to gain a deeper theoretical understanding of how autonomous workgroups would influence different attitudes for different lengths of time.

As a second example, Campion and McClelland (1991, 1993) were interested in the effects of job enlargement on a wide range of outcomes. They conducted a quasi-experiment across five sites of a financial services organization. Managers were seeking to combine existing clerical jobs into larger jobs, hoping to increase motivation, satisfaction, and feelings of ownership without sacrificing productivity and quality. Campion and McClelland (1991) examined outcomes experienced by employees whose jobs had been enlarged along with those experienced by employees in nonequivalent comparison groups, whose jobs had not been enlarged. They found that job enlargement tended to produce motivational benefits (increased satisfaction, decreased mental overload, enhanced error detection, and improved customer service), mechanistic costs (higher training requirements, higher basic skills, higher compensation needs), and no effects on physical outcomes.

If this were a laboratory experiment, the researchers would have likely stopped there. If this were a true field experiment, managers might have selected the outcomes that were most important to them and designed all jobs to maximize these outcomes, eliminating the possibility of longer-term investigation. Because it was a quasi-experiment and the changes in job enlargement were maintained, it was possible to conduct a follow-up

2 years later. Campion and McClelland (1993) capitalized on this opportunity to use a pretest–posttest design examining within-subject changes, making it possible to minimize concerns about selection as an alternative explanation. They discovered that, in the longer term, job enlargement was primarily associated with costs—decreased satisfaction, efficiency, poorer customer service, and greater mental overload and errors. This enabled them to advance job design theory toward a clearer understanding of temporal patterns: The benefits of task enlargement appear to dissipate, and perhaps even reverse, over time. They suggested that the fleeting benefits of task enlargement may, in fact, be caused by manager attention in line with the Hawthorne effect. They further suggested that the delayed costs, such as mental overload and efficiency, did not emerge in the initial study because they build up over time. Thus, Campion and McClelland used quasi-experimental thinking to build new theory about temporal changes in employees' reactions to job redesign.

Taken together, the studies by Wall et al. (1986) and Campion and McClelland (1993) highlight the value of quasi-experiments for identifying sleeper effects. Sleeper effects occur when the true impact of a change, intervention, or manipulation is delayed and only emerges after some period of time (see Evans, 1976). Sleeper effects may occur through several mechanisms. One such mechanism is buildup: As Campion and McClelland suggested, effects on variables such as mental overload may take time to accrue. A second mechanism is opportunity: People may not have the chance to show changes in behavior at an initial measurement point because of task constraints or shifting responsibilities (e.g., Grant, 2008a). A third mechanism is psychological adaptation: Short-term responses to an intervention may differ from long-term responses because of processes of adjusting (see Diener, Lucas, & Scollon, 2006). For instance, Griffin (1991) found that the performance of bank tellers did not increase 6 months after job enrichment but did increase 24 and 48 months later. This pattern may reflect the time that it took for tellers to adapt and adjust to their new responsibilities.

All three types of sleeper effects may be more visible in quasi-experiments than in laboratory or true field experiments. Quasi-experiments provide researchers with an opportunity to assess temporal changes that are difficult to observe using other methods. Whereas researchers have extensively discussed how qualitative methods can be used to *build* theory, experiments are usually reserved for *testing* theory (e.g., Chatman & Flynn, 2005; McGrath, 1981). In contrast, we suggest that researchers can advance toward deeper theoretical understandings of time by using quasi-experiments to build, elaborate, and refine knowledge about temporal patterns. Although true field experiments may also offer this advantage, as suggested above, quasi-experiments may be better suited to examining temporal effects because they examine naturally occurring or managerially induced changes that may be more likely to last than interventions introduced by researchers. This is especially likely to be the case for macro-level interventions that are costly to sustain and thus require considerable buy-in from managers, such as changes in organizational structure (Joyce, 1986), the introduction of gain-sharing plans (Welbourne & Balkin, 1995), and the creation of quality improvement and other process management programs (Benner & Tushman, 2002). Quasi-experiments are also better suited to examining temporally extended effects of the types of variables discussed previously that are impossible or

unethical to manipulate, such as macroscopic events that are not subject to researcher control (Romanelli & Tushman, 1986) as well as negative events and beneficial treatments.

Benefit 3: Minimizing or Avoiding Ethical Dilemmas of Harm, Inequity, Paternalism, and Deception

Quasi-experimentation offers the additional benefit of minimizing ethical dilemmas. In attempting to conduct field experiments, researchers face four serious ethical dilemmas that we refer to as harm, inequity, paternalism, and deception. Below, we illustrate how quasi-experiments can be used to minimize or avoid all four of these ethical dilemmas.

The harm and inequity dilemmas. The *harm dilemma* concerns the risk of taking actions that cause physical or psychological pain to participants (Baumrind, 1971; Kelman, 1967). Although researchers often enter organizations to conduct field experiments with good intentions, experiments can backfire, causing physical and/or psychological harm to participants (Baumrind, 1985; Fineman, 2006; Kelman, 1967; Savin, 1973). As suggested previously, quasi-experiments make it possible to avoid the harm dilemma by ensuring that researchers are not responsible for causing pain or discomfort, in line with the edicts of the medical profession and Institutional Review Boards of "first, do no harm," as well as strong lay preferences to avoid taking actions that actively cause harm (Baron & Ritov, 2004). Rather than manipulating untoward events such as crises, layoffs, demotions, and strikes, quasi-experimentation allows researchers to study these events as they occur naturally.

The *inequity dilemma* concerns providing differential benefits to different groups of employees. As noted earlier, quasi-experiments can avoid the inequity dilemma by enabling researchers to study the impact of benefits that are already being allocated differentially. Organizational researchers can use quasi-experiments to examine the effects of naturally occurring changes that would involve unfair distribution of benefits to treatment groups if manipulated in controlled experiments via random assignment. For example, past quasi-experiments have examined naturally occurring changes in benefits such as social support and stress reduction (Kompier, Aust, van den Berg, & Siegrist, 2000; Le Blanc, Hox, Schaufeli, Taris, & Peeters, 2007), decision-making training (Ganzach, Pazy, Ohayun, & Brainin, 2002), social richness in telecommuting technology (Venkatesh & Johnson, 2002), improvements in workspace designs (Oldham, 1988), providing a more favorable performance appraisal system (Mayer & Davis, 1999; Taylor et al., 1995), and training supervisors in justice principles (Skarlicki & Latham, 1996). Rather than distributing these benefits unfairly via random assignment, quasi-experimentation allows researchers to study naturally occurring variations in their distributions. In addition, quasi-experimentation makes it possible for researchers to avoid the inequity dilemma by distributing benefits to the groups that need them most, as in the cases of providing additional training to underperforming teams and increasing wages in departments with underpaid employees. By assigning benefits to intact groups with high levels of need, rather than assigning them randomly, researchers can maintain higher levels of equity.

The paternalism and deception dilemmas. The *paternalism dilemma* concerns the role of the researcher in manipulating, controlling, influencing, and intervening in organizational

life. On pragmatic grounds, scholars have observed that employees often resist having their lives experimented on, their freedom threatened, and their actions controlled (Argyris, 1975; Brehm, 1966; Tetlock, 2002). On moral grounds, scholars have questioned whether we have the right to exert this type of influence (Fineman, 2006; Mirvis & Seashore, 1979; Weiss & Rein, 1970). Argyris (1975) wrote that experimentation "raises questions about the ethics of people producing change in others, of invasion of privacy, of unilateral control by the powerful over the less powerful" (p. 477). Quasi-experiments minimize the paternalism dilemma by shifting the researcher's role from paternalistic authority figure to explanatory detective. Rather than manipulating, controlling, and influencing employees, quasi-experiments allow researchers to conduct "analytic detective work" (Mintzberg, 1979) to evaluate and explain the effects of a naturally occurring change. The quasi-experiment thereby puts researchers on equal footing with participants, minimizing concerns about paternalistic exercises of power in administering experimental manipulations.

The *deception dilemma* concerns the often-necessary step of misleading participants about the true nature of a field experiment. If participants are aware of the hypothesis being investigated, they often change their behavior in attempts to support or challenge the hypothesis (Argyris, 1975; Eden, 2003; Kelman, 1967; Rosenthal, 1994; cf. Cook et al., 1990). Although researchers have vigorously debated the ethical merits of deception, many maintain that it robs participants of their rights to self-determination and can cause psychological harm (Baumrind, 1985), a view especially common among economists (Ariely & Norton, 2007). Quasi-experiments minimize the deception dilemma by allowing researchers to study naturally occurring changes, relaxing the requirement to deceive employees in the name of science. Although this raises questions about whether awareness or framing of a change has influenced their responses, researchers can address such questions by examining the effects of the change in multiple groups or settings. By capitalizing on naturally occurring variance in awareness and framing of a change, researchers can begin to examine whether its effects generalize. Alternatively, researchers can introduce changes into intact groups in different departments or organizations that have no contact with each other. This eliminates the implementation threats that arise when participants become aware of treatments assigned to other groups (Cook & Campbell, 1979), which helps researchers to avoid ethical dilemmas about whether to inform participants of the true nature of the experimental design. The quasi-experiment thereby enables researchers to avoid deception while maintaining reasonable internal and external validity.

Benefit 4: Facilitating Collaboration With Practitioners

A fourth benefit of quasi-experimentation is that it allows, and in many cases requires, researchers to bridge the scholar–practitioner divide. In recent years, scholars have expressed renewed interest in collaborating with practitioners, advocating more problem-oriented research (Davis & Marquis, 2005; Lawrence, 1992), knowledge transfer (Rynes, Bartunek, & Daft, 2001), evidence-based management (Rousseau, 2006), knowledge for theory and practice (Van de Ven & Johnson, 2006), and efforts to enhance relevance to managers and public policy (Shapiro & Rynes, 2005). We suggest that quasi-experimentation provides organizational scholars with a valuable tool and incentive for answering these calls to build a bridge

to practice by resolving three barriers to researcher–practitioner collaboration that are common in field experiments.

Shifting the researcher's role from hijacker to sensemaker. First, leaders and managers are often unwilling to allow researchers to control and manipulate their organizations in true field experiments (Evans, 1976). Quasi-experimentation makes it possible to overcome this barrier by shifting the researcher's role. Instead of attempting to control and manipulate organizations through random assignment to treatment conditions, researchers can serve as sensemakers responsible for observing and assessing a change that is naturally occurring or being implemented by the practitioners. For example, in their quasi-experiment, Wall et al. (1986) provided a valuable service to the company studied and the consultants introducing the change by evaluating the outcomes of introducing autonomous workgroups at no charge. Similarly, macro researchers interested in the effects of strategy on performance may be able to help managers evaluate the impact of new strategies over time. As such, quasi-experimentation often enables researchers to take on the role of assisting, rather than hijacking, the organization to understand the effects of a change that matters to managers and employees.

Ensuring that the study is relevant to practitioners. Second, researchers often seek to manipulate variables that have little relevance to practitioners' interests and priorities, rightfully leaving practitioners wary about the value of collaborating (Shapiro, Kirkman, & Courtney, 2007). Quasi-experimentation makes it possible to overcome this barrier by ensuring that the investigation is of relevance to practitioners. Instead of imposing their own theoretical interests on the organization, researchers are able to study the impact of an event that already has meaning to and impact on the organization. For example, researchers have used quasi-experiments to evaluate the effects of managerially induced changes on important behavioral outcomes such as individual job performance (Stajkovic & Luthans, 2001), productivity (Buller & Bell, 1986), group effectiveness (Wageman, 1995), psychological outcomes such as strain (Parker, 2003), union attitudes (Lieberman, 1956), and job satisfaction, organizational commitment, and turnover intentions (Hui, Lam, & Schaubroeck, 2001). Quasi-experimentation thus provides researchers and practitioners with the opportunity to collaborate in investigating issues of mutual interest.

Creating interdependence between researchers and practitioners. Third, leaders and managers often feel threatened and excluded by researchers, who sometimes maintain an air of superiority, withhold key information about the nature of the research, and fail to use practitioners' expertise (Amabile et al., 2001). Quasi-experimentation makes it possible to overcome this barrier by shifting the researcher's stance toward practitioners. Instead of positioning themselves as the undisputed experts, researchers are equal partners with practitioners, with each party bringing valuable knowledge to bear on the investigation. Managers and employees are not subjects but rather informants and partners who provide critical local contextual knowledge to complement the researcher's more general theoretical, methodological, and statistical knowledge. Researchers offer expertise relevant to rigorously evaluating the effects of the change, whereas practitioners offer expertise relevant to understanding the contextually specific meaning of the implementation process and outcomes.

Quasi-experimentation thus has the potential to introduce both task and goal interdependence between researchers and practitioners. They are task-interdependent because they are reliant on each other to carry out the process of conducting the quasi-experiment, and they are goal-interdependent because they share a commitment to the outcome of completing and evaluating the quasi-experiment. Psychological and organizational research has shown that task and goal interdependence facilitate collaboration in a variety of work settings by increasing employees' motivations to share and benefit from each others' expertise (Aronson, 1978; Kozlowski & Ilgen, 2006; Wageman, 1995), and this evidence applies directly to researcher–practitioner collaboration. For example, consider a series of experiments examining the motivation and performance effects of task significance and contact with beneficiaries (Grant, 2008a, 2008b; Grant et al., 2007). The researcher provided general knowledge about how to evaluate the effects of the intervention using pretest and posttest data comparing an intervention group with a nonequivalent control group. Managers provided local contextual knowledge about how to measure motivation and performance as well as when to collect these measures to ensure that employees were working on comparable tasks. Because they were invested in the process and the outcome, managers spent several dozen hours tabulating additional performance data to facilitate a more thorough evaluation of the results. Quasi-experimentation can thus create task and goal interdependence between researchers and practitioners, increasing the likelihood of successful design and execution. These advantages suggest that organizational scholars stand to benefit from more partnerships with practitioners. Researchers are more likely to become aware of opportunities for quasi-experiments when they have close contact with an organization. Creating forums for ongoing exchanges with executives, human resources (HR) managers, training leaders, consultants, and other groups of practitioners has the potential to create more opportunities for win–win collaboration between researchers and practitioners on quasi-experiments.

Comparison to action research. Viewed through this lens of facilitating collaboration with practitioners, it is apparent that there are several parallels between quasi-experimentation and action research (Argyris, 1994; Lewin, 1946). It is often assumed that action research tends to focus primarily on exploration as a pathway to change (Aguinis, 1993), whereas quasi-experimentation tends to focus primarily on rigorous hypothesis testing. However, the two research methods share a goal of achieving understanding in context: Both approaches are directed toward the objective of advancing knowledge with a strong focus on external validity (Aguinis, 1993).

The two research methods can either converge or diverge in terms of two other goals—relevance and change—depending on the nature of the quasi-experiment. First, with respect to relevance goals, when quasi-experiments are directed toward answering questions that matter to practitioners, they share an objective of action research to "collect data about a system (e.g., organization) relative to some goal or need of the system" (Aguinis, 1993, p. 419). In both quasi-experimentation and action research, hypotheses are investigated and data are used to produce feedback about the phenomenon being studied. In contrast, when quasi-experiments are directed toward answering more abstract questions that have greater pertinence in theory than practice, they are less closely aligned with goals of achieving relevance to the organizations being studied. Second, with respect to change

goals, when quasi-experiments involve researchers introducing changes into intact or preexisting groups, they share an objective of action research to generate change. In both approaches, researchers are simultaneously seeking to further knowledge and affect organizational practice. In contrast, when quasi-experiments focus on evaluating changes in naturally occurring independent variables, researchers are concerned primarily with increasing understanding, placing less emphasis on generating change. Thus, when focused on achieving relevance to and change in organizations, quasi-experiments can be seen as a method of action research.

Benefit 5: Using Context to Explain Conflicting Findings

A final benefit of quasi-experimentation involves using context to explain conflicting findings. Context is of central interest to organizational scholars, as it captures the opportunities and constraints created by situational and environmental factors (Mowday & Sutton, 1993). However, Johns (2006) argued that we often fail to systematically incorporate context into our theories and research designs. He points out that context is particularly valuable for explaining conflicting relationships, such as sign changes in an effect. We suggest that quasi-experiments provide researchers with a valuable resource for the empirical study of context as an explanation for conflicting results. In situations when random assignment to controlled treatments is practically or ethically infeasible, researchers can utilize quasi-experiments to assess whether a naturally occurring change in a key contextual variable affects the magnitude or direction of a relationship of interest.

For example, consider the effect of work attitudes on absence. For several decades, researchers assumed that more satisfied employees were less likely to withdraw, predicting that absence rates would increase as satisfaction decreased. However, findings varied across studies, with some studies showing a strong relationship and others showing a weak or null relationship. Smith (1977) sought to resolve these conflicting findings with a quasi-experiment designed to highlight that the attitude–absence relationship depended on context. He reasoned that managers design control systems to punish and prevent absence. If they miss work, employees can expect to incur financial penalties and social sanctions. Thus, both satisfied and dissatisfied employees face strong pressure toward attendance, and the context discourages them from enacting the consequence of their attitudes.

Smith argued, however, that certain events could override this pressure to be present. When bad weather strikes, personal and public modes of transportation are often compromised, making it difficult for employees to arrive at work. Bad weather thus provides employees with a window of opportunity—an excuse for being absent without incurring financial or social penalties. Smith argued that satisfied employees would expend effort to get to work, whereas dissatisfied employees would take advantage of this opportunity. He thus hypothesized that attitudes would be a stronger predictor of absence under conditions of bad weather.

To test this hypothesis, Smith conducted a study capitalizing on naturally occurring variance in weather. For different purposes, he had collected measures of attitudes from employees at a single company with headquarters in two different cities: Chicago and New York. Employees reported their attitudes toward supervision, the type and amount of work, career future and security, financial rewards, and company identification. Shortly

after employees at both locations completed surveys, a severe snowstorm struck Chicago, obstructing the city's transportation system. He exploited this meteorological event by obtaining attendance records for the following day for employees in both Chicago and New York, expecting a relationship between attitudes and attendance in Chicago, where the weather conditions provided the more disaffected with an excuse for being absent, but not in New York, where the normal controls still applied.

As predicted, Smith found that attitude measures were strongly correlated with attendance levels in Chicago, where the snowstorm struck, but were weakly or insignificantly correlated with attendance levels in New York, where there was no such event. The quasi-experiment thereby supported the hypothesis that context moderates the effect of attitudes on absence and allowed Smith to demonstrate how context could explain previous conflicting findings.

However, there are several rival explanations that might have been eliminated if Smith had been able or seen fit to collect additional data. One alternative explanation is selection—that the attitude–absence relationship was already stronger in Chicago than New York for reasons other than the weather. Another is history—the idea that events other than weather, such as an organizational change that occurred in Chicago but not in New York, resulted in the effects. Smith could have ruled out both of these explanations by collecting pretest and posttest measures of attitudes and attendance on multiple days. This would have allowed him to show that the attitude–absence relationship was weak in Chicago before the snowstorm, increased immediately after the snowstorm, and decreased again once transportation was made readily available. Had Smith conceptualized his study as a quasi-experiment, he might have taken these steps to strengthen his design and the interpretation. Nevertheless, this study provides an excellent illustration of how quasi-experimental thinking can be used to assess and demonstrate the role of context in explaining conflicting findings. This wisdom may be applied to guide quasi-experiments designed to highlight the role of context in explaining controversies in other areas of organizational research. For example, researchers have recently used a quasi-experiment to resolve conflicting findings about whether semi-autonomous workgroups improve performance. A longitudinal comparison of groups introduced to traditional versus semi-autonomous workgroups showed that performance benefits of the semi-autonomous workgroups emerged where reward, feedback, and information systems were poor but not where they were effective (Morgeson, Johnson, Campion, Medsker, & Mumford, 2006). This enabled the researchers to understand that the performance benefits of semi-autonomous workgroups depend on the extent to which contexts provide support systems.

Thus, quasi-experiments can be a productive means for using context to explain conflicting findings. Although field and laboratory experiments can serve the same function in principle, in practice quasi-experiments may offer a stronger combination of internal and external validity. In true field experiments, it is often impossible to control and manipulate contextual variables in the field, especially at the macroscopic level (Hackman, 1985), and because attraction–selection–attrition processes play an important role in determining who enters and remains in a given organization, it can be quite difficult to randomly assign employees to contexts (Schneider, 1987). Thus, attempts to manipulate contextual variables in true field experiments often lack internal validity. In laboratory experiments, it is often difficult to create conditions that realistically simulate context (Argyris, 1975;

Hackman, 1985), raising concerns about external validity. As such, quasi-experiments may provide researchers with a unique opportunity to capitalize on naturally occurring contextual differences or changes to explain conflicting results.

Discussion

The quasi-experiment is a method that is frequently recommended but too rarely applied in organizational research. Like many ideas, it is far more often espoused than practiced (Argyris, 1975). To address this problem, we have sought to motivate increased and novel uses of quasi-experimentation by identifying five of its key benefits in organizational research. Although several of these benefits can occur in true field experiments, we have described how quasi-experiments may be particularly well-suited to achieving them. Our discussion highlights that randomized, controlled experiments are not always the gold standard for research design in organizational settings. In contrast to much conventional wisdom, quasi-experiments in many organizational settings can offer superior external validity and maintain good internal validity (Campbell & Stanley, 1966). As Lawler (1977) observed, a quasi-experiment with pretest and posttest measures and a nonequivalent control group "is a preferred design in many ways and one that in many field situations is superior to the pure experimental designs because of greater external validity" (p. 578). In our experience, scholars often face a tradeoff between relevance and elegance in designing research. We believe that quasi-experiments can minimize this tradeoff by allowing researchers to conduct studies that are both relevant and elegant.

Accordingly, we see quasi-experimentation as both a science and an art. It is a science in the sense that it involves the use of systematic, rigorous methods of investigation to test a causal hypothesis and advance knowledge about a research problem or question. It is an art in the sense that it involves the use of skill and imagination to produce creative research designs. As such, we hope that our discussion will open researchers' eyes to opportunities to conduct detective work with vast stores of available archival data that they had not previously considered analyzing, in the spirit of past quasi-experiments on CEO successions (Carroll, 1984), industry deregulation (Haveman, 1993), policy changes (Benner & Tushman, 2002), technological advances (Wall, Jackson, & Davids, 1992), and even major-league baseball trades as a case of involuntary job change (Bateman et al., 1983).[2] We hope that our discussion will also stimulate creative thinking about ongoing changes in organizations that present opportunities for quasi-experiments, such as changes in promotions, reward systems, job designs, training and development programs, work–family policies, and corporate social responsibility initiatives. Given the surprising scarcity of quasi-experiments in top research journals, we believe that our discussion has value for making quasi-experimentation more salient and for motivating scholars to consider using it in their research programs. By articulating and illustrating these benefits, we have sought to provide researchers with deeper "why-to" knowledge about the value of quasi-experiments and "when-to" knowledge relevant to finding opportunities to implement them.

Nevertheless, it is important to clarify that our intention is not to promote the use of quasi-experimentation irrespective of the research question. Like all methods (McGrath, 1981), quasi-experiments are appropriate for addressing some questions and ill-suited for

others. Rather, we have argued that quasi-experiments are an underutilized resource for achieving internal and external validity when random assignment and controlled manipulation are not practically or ethically feasible. Because organizational scholars are often interested in supporting causal inferences (internal validity) and generalizing these inferences to organizational settings (external validity), quasi-experiments are appropriate for addressing many of the research questions that organizational scholars regularly pursue.

Challenges of Quasi-Experimentation

Although we have focused on the benefits of quasi-experiments, they are not without their difficulties and costs. Unlike laboratory experiments, quasi-experiments require considerable effort in finding and evaluating a change in an environment that avoids range restriction and makes it possible to see effects or differences emerge. Once a change is identified, it is often difficult for researchers to obtain the relevant access and persuade practitioners to provide the necessary data to conduct a systematic study. Even if researchers are able to surmount these barriers, quasi-experiments require considerable patience as organizations change and evolve during the research process. Furthermore, by virtue of random assignment to controlled treatment conditions, field and laboratory experiments allow researchers to rule out many validity threats a priori, such as selection and statistical regression. Conversely, quasi-experiments require considerable work on the part of researchers in the form of careful planning, thinking, evaluating, and discriminating to identify likely validity threats and to develop designs with multiple comparison groups and measurement occasions to minimize them (Campbell & Stanley, 1966). Here, wisdom from Sherlock Holmes is once again instructive, "It is of the highest importance in the art of detection to be able to recognize out of a number of facts which are incidental and which vital" (Doyle, 1893/1988, p. 638).

As such, issues of construct validity are of critical importance in quasi-experimentation. Because random assignment and/or the manipulation of the independent variable are not under the experimenter's control, or are precluded by considerations of external validity, it is particularly important for researchers to design quasi-experiments carefully to protect against threats to internal and external validity. Ideally, researchers should use multiple control groups and pretest–posttest time-series measurement designs to rule out—or minimize the impact of—the 16 aforementioned validity and implementation threats identified by Campbell, Cook, and colleagues. The strongest quasi-experimental design involves an intervention, treatment, or naturally occurring change applied in varying degrees or intervals to multiple groups with the use of multiple pretest and posttest measures (Campbell & Stanley, 1966). A combination of deep familiarity with the research setting and strong relationships with key stakeholders can help researchers to identify relevant changes in independent variables, control groups, and contextually appropriate dependent variables. However, in most circumstances, as it is unlikely that a single quasi-experiment can address each threat, methodologists recommend conducting a series of heterogeneous experiments, each directed toward ruling out a different set of threats (Cook & Campbell, 1979).

An additional challenge of quasi-experiments is that they require researchers to strike a delicate balance between attending to context-specific phenomena and testing generalizable hypotheses. Attention to context can undermine generalizability when researchers conceive

of contexts as unique, a perspective common in organizations (Martin, Feldman, Hatch, & Sitkin, 1983). However, in quasi-experimentation attention to context is necessary for generalizability, as it helps us to understand the conditions under which a variable is more and less likely to exert a particular pattern of effects (Johns, 2006). Our epistemological stance on the issue of contextual specificity versus generalizability thus follows that of Weick (1999) and Thorngate (1976), who argue that social science differs from natural science in that no theory in social science can be simultaneously simple, general, and accurate. Put differently, boundary conditions are a prerequisite for developing strong theory in the social and organizational sciences (Dubin, 1976; Whetten, 1989). We believe that in order for attention to context to advance theory rather than limit generalizability, it is critical for researchers to identify the features of the context being studied that render it both similar to and different from organizations. To paraphrase Murray and Kluckhohn (1948), every organization is in certain respects like all other organizations, some other organizations, and no other organizations. We suggest that to study context in useful ways, we need to attend to the ways in which the organizations we study are like *all* and *some* other organizations, not only how they are like *no* other organizations.

Ultimately, the extent to which quasi-experiments advance generalizable knowledge is contingent on how they are used. Whether quasi-experiments produce generalizable knowledge is likely to depend on (a) the focus of the research question, (b) the nature of the sample selected, and (c) the rigor of the research design. Provided that the intervention is theory-based, involves a sample appropriate for generalization to the population of interest, and makes it possible to rule out rival explanations, quasi-experiments can contribute to generalizable knowledge. However, if quasi-experiments fall short on one or more of these criteria, they may run the risk of producing little advancement to generalizable knowledge.

Advice for Gaining Access and Persuading Practitioners to Collaborate on Quasi-Experiments

When we present our own field experiments and quasi-experiments, audience members commonly ask, "How can I go about getting access to an organization and convincing practitioners to collaborate on quasi-experiments?" In this section, we summarize what we see as our 10 most helpful answers, in the hope that they will increase the knowledge, skill, and self-efficacy of researchers who are interested in using quasi-experiments in their own investigations. Our advice is directed toward resolving common challenges in identifying opportunities for quasi-experiments, building trust, achieving mutual benefits, and overcoming conflicting goals.

1. Build long-term relationships with organizations and their employees. Establishing lasting connections with practitioners has several benefits for making quasi-experiments a reality. First, long-term relationships build trust (e.g., Kramer, 1999), increasing the likelihood that practitioners will approve a research project. Second, long-term relationships enhance the probability that researchers can become aware of naturally occurring changes or opportunities to help an organization by designing and evaluating an intervention. In our experience, close relationships with practitioners facilitate familiarity with organizations,

their archival data, and their ongoing changes. Moreover, practitioners are more likely to seek out researchers for advice and assistance when they have a long-term relationship. For instance, one of us is currently designing a quasi-experiment that was stimulated by a recent e-mail exchange with an executive education participant from last year, who wrote to ask for help with an organizational challenge.

2. Disseminate findings from past research to practitioners. Sharing research findings—either one's own or others'—can also create opportunities for quasi-experiments. Sharing results helps practitioners to recognize potential applications of the research ideas to their own organizations as well as to consider the researchers as potential collaborators on an intervention, thereby reducing entry barriers. For instance, Wall et al. (1992; Wall, Corbett, Martin, Clegg, & Jackson, 1990) gained access to a quasi-experiment on operator work design after they presented a previous study of autonomous workgroups at a conference. An HR manager at a manufacturing firm happened to be in the audience and approached the authors about helping to evaluate the introduction of new computer-controlled technology at his firm. In another instance, by sharing the results of one field experiment with fundraisers, researchers were able to gain access to other fundraising organizations for additional field and quasi-experiments (Grant, 2008a, 2008b; Grant et al., 2007). When disseminating research findings, whether in the context of conference presentations, executive education courses, conversations with managers, or media stories, we find it especially useful to pose a simple question to practitioners: "How could you apply these ideas (or this process) in your organization?" Often their answer is the stimulus for a quasi-experiment.

3. Highlight expected benefits of quasi-experimentation. Practitioners will be most likely to participate in and collaborate on quasi-experiments when they can understand how it will help them achieve their goals. This advice, of course, is consistent with a fundamental premise of theories of motivation (Vroom, 1964) and persuasion (Aronson, 1999): To motivate and influence others toward a particular course of action, we need to show them its value. In our own first quasi-experiments, we lacked "means efficacy" (Eden, 2003): Without prior experience using the method, we had little reason to be confident in its effectiveness. Only after conducting several quasi-experiments did we come to realize the full value that quasi-experiments could offer to practitioners and their organizations. We entered our first quasi-experiments with the belief that they would be more difficult to sell to practitioners than traditional passive observational studies relying on surveys and interviews. In time, we have come to believe that practitioners are often *more* receptive to quasi-experiments than observational studies. This is because quasi-experiments offer a distinct advantage over observational studies: When well designed, they allow practitioners to evaluate the impact of changes, thereby producing actionable knowledge that can be applied to enact more beneficial changes. Thus, whereas passive observational studies are typically one or multiple steps removed from taking action designed to create change, quasi-experiments involve taking or evaluating action designed to create change. This is an important benefit that we recommend highlighting to practitioners. As a manager once told one of us, opening the door for a quasi-experiment, "If I'm going to work with you, I don't want another survey that's going to sit on the shelf and collect dust. I want results!"

4. Ask questions to learn about what practitioners value. To convince managers to join forces on quasi-experiments, it is critical to tailor the project to their values and highlight the specific benefits that they can achieve through collaborating. In many situations, however, we lack a full understanding of what it is that practitioners value. For some practitioners, it may be increased employee performance, productivity, motivation, citizenship, or initiative. For others, it may be enhanced job satisfaction and organizational commitment, or reduced absenteeism, turnover, or burnout. These outcomes are well-suited to quasi-experimentation because as organizational scholars, we are often interested in the same variables. We have worked with a surprising number of practitioners on quasi-experiments, however, who have very different goals and agendas for collaborating. One practitioner was excited about a quasi-experiment because this would show his boss that he was making a concerted effort to improve employee motivation. A second practitioner was running an organization to earn a living while finishing a doctorate in political science and saw a quasi-experiment as an opportunity to support a fellow researcher, express his academic identity, and apply analytical tools in a part-time job. A third practitioner was genuinely curious about whether an intervention could be successful and viewed the quasi-experiment as a means for exploring and satisfying his curiosity. A fourth practitioner was considering applying to doctoral programs and saw a quasi-experiment as a chance to learn about and gain hands-on experience in the research process.

These examples illustrate the range of different reasons that may drive practitioners to endorse and collaborate on quasi-experiments. Rather than assuming that we understand what practitioners value, we find it useful to ask a series of questions about what is important to them. "What are your goals in the next year? What are some challenges that you're currently facing in your job? Are there particular areas in which you could use an outside perspective or help from a researcher?" We listen carefully to their answers and look for mutual interests. In some situations, this involves devising a quasi-experiment to answer questions of common concern. At other times, we have performed work for the organization in exchange for the opportunity to conduct an experiment or have designed an experiment as one of multiple inputs into a consulting project. For example, we typically prepare and present a report for the organization on our key findings and recommendations for further action. For some organizations, we have written case studies of the organizational culture for managers to use in socializing new employees and have led training sessions to teach leaders and employees how to benefit from key management principles. The bottom line here is to find out what practitioners value and then propose a way to satisfy their interests while fulfilling one's own interests as well. In academic terms, we are essentially suggesting that researchers apply principles of integrative negotiation: seek to expand the pie, add multiple issues onto the table, and attempt to create win–win collaborations that benefit all parties (for practical advice, see Bazerman & Malhotra, 2007).

5. Highlight potential benefits to the researcher (i.e.,you). When we first began conducting quasi-experiments, we made the mistake of focusing only on how the project would benefit the organization. Only later did we learn that once practitioners can see the potential benefits for themselves and their organizations, they are often curious about what researchers are hoping to gain from the project. We believe that this is, in part, because they want to make sure that they are not being taken advantage of and, in part, because

helping a researcher is a potential source of task significance for practitioners. We have collaborated with several practitioners who take considerable pride in being able to contribute to knowledge about an important practical problem. In addition, practitioners are often unaware that a researcher's reputation can be made on a few of strong quasi-experiments. A handful of practitioners have expressed to us that collaborating on a quasi-experiment is one of the more meaningful activities in their jobs: It helps them to feel that they are making a difference and that their organization is valued by and visible to an outside expert.

6. Share references from past clients and research sites. Once the possibility of a mutually beneficial quasi-experiment is on the table, practitioners need to be convinced that this researcher is the right person to conduct it. Third-party references and testimonials can be invaluable resources for traversing this hurdle. Putting potential collaborators in touch with past clients and research sites can help to reassure them that the researcher is trustworthy and has the ability to deliver valuable results (e.g., Kramer, 1999). It can also provide social proof, signaling to practitioners that their organizations should follow the lead of other organizations that have benefited from the researcher's services (see Cialdini, 2001). For instance, we have often gained access to new sites by asking practitioners who have worked with us on past quasi-experiments to vouch for our credibility and capabilities to potential collaborators.

7. Highlight common goals and unique expertise. Another path toward building trust is to emphasize a combination of similarities and differences in conversations with practitioners. Identifying common, shared, and superordinate goals—such as passion for the organization's mission and a desire to improve its functioning—is paramount to overcoming conflicting goals and helping practitioners to feel that researchers have their best interests in mind. However, highlighting similarities is not enough, as some practitioners are threatened by the presence of an outside expert with advanced degrees and an Ivory Tower post. To protect against this risk, we have found it constructive to clarify our unique expertise *and* lack thereof. We supply a biography that summarizes our past accomplishments and explain that we bring a generalist's knowledge of management and organization as well as skills in research and analysis. We then seek to affirm the expertise that practitioners bring to the table: They are the experts on the organization, the nature of the work and the industry, and the employees. We then outline our strong belief that the knowledge bases of researchers and practitioners are complementary and, in combination, can help to achieve the common goals that we have identified. In short, we follow advice from psychologists to maintain both task and goal interdependence (Aronson, 1978), creating a balance between fitting in and standing out (Brewer, 1991) by summarizing our own areas of expertise (Cialdini, 2001; Kramer, 1999) and affirming—rather than threatening (Steele, 1988)—practitioners' own distinctive expertise.

8. Find the right contacts. We have often made the mistake of attempting to craft a collaborative project with the first manager whom we meet in a given organization. As we have gained experience, we have come to think of these "first contacts" as entry points. Some are inevitably too busy, some may not be open-minded and curious about research,

and others will take little personal ownership and responsibility for the end results. In these situations, it is worth having a frank conversation with first contacts about whether they are excited about serving as liaisons for the project or whether there is someone else with a schedule, skill set, or personal interest that is more conducive to the nature and timing of a quasi-experiment.

9. Translate jargon into language comfortable to practitioners. We have also made the mistake of speaking in academic parlance. Many of our conventional terms, such as *quasi-experiment* and *intervention*, sound esoteric to some and disconcertingly invasive to others. To avoid these reactions, we find it safer to use lay terminology such as *change* and *new program*.

10. If all else fails, start with observational field research. If the steps above do not succeed, we suggest starting by getting one's hands dirty in field research using surveys or interviews. This can open doors for building trust, identifying opportunities for naturally occurring changes, and gathering data relevant to proposing a promising intervention. In addition, field research can provide pretest data if a change does occur. Researchers who have provided a service to organization through nonexperimental work may benefit from the norm of reciprocity: Managers may be more willing to support a proposed quasi-experiment to return favors or fulfill perceived obligations. For example, Parker (2003) was working with a vehicle manufacturing and assembly company on an extended project to evaluate progress and workforce development. After she had distributed an initial survey, she learned that a U.S.-owned multinational company, formerly a major customer, would be taking over. She learned that the company was introducing lean production practices, and she was able to capitalize on this knowledge to propose a quasi-experiment. Because she had helped the company, managers were willing to share the data necessary for her to find a nonequivalent control group and to publish a quasi-experiment. In this way, providing a service to practitioners through observational field research may enhance their receptivity to quasi-experimentation.

Future Opportunities for Quasi-Experimentation: Bridging the Positivist–Interpretivist Divide

Quasi-experimentation is designed to flourish in a methodologically diverse universe—one in which the research question, rather than a preordained ideological or methodological commitment, guides the investigator's choice of method. Historically, quasi-experimentation has been a tool embraced by positivists favoring quantitative methods, whereas interpretivists have preferred qualitative methods such as narrative inquiry and case studies. However, recent developments in both quasi-experimentation and case study research suggest that the potential exists for a synthesis of these two methods. Although many case studies are post hoc explorations of an interesting development or phenomenon, Campbell and Stanley (1966) suggested that case studies can qualify as quasi-experiments if they meet two criteria. First, researchers are investigating the impact of a change in a specific independent variable on one or more dependent variables. Second, the change group's scores on the dependent variable are compared with those of one or more nonchange groups. This

comparison can be achieved through the assessment of a different group (a nonequivalent control group design) and/or pretest–posttest measures within the same group (a repeated-measures design). The strongest quasi-experimental designs include both nonequivalent control groups and repeated measures, but either one is sufficient to provide a comparison (Cook & Campbell, 1979).

In line with these recommendations, researchers specializing in case studies have begun to advocate longitudinal and multiple-case designs in which comparison groups play a critical role in the process of collecting and analyzing data (Eisenhardt, 1989). They have also encouraged more positivistic, quantitatively oriented researchers to conduct explanatory case studies to understand why an intervention affected an outcome (Yin, 1994). At the same time, quasi-experimentalists are recommending the use of quasi-experiments to build, not only test, theory (Cook & Shadish, 1994). By conducting interviews and observations during and after changes, researchers can use qualitative data to understand and explain their results (Cook et al., 1990; Lipsey & Cordray, 2000). Although qualitative data may also be useful in true field experiments, when the researcher has full control of random assignment and controlled manipulations, it is often more feasible to develop and support hypotheses deductively. On the other hand, when a change is naturally occurring or introduced by managers in quasi-experiments, researchers may be more reliant on qualitative data to deepen their inductive understandings of the phenomena being studied. As Leon Festinger advised his students, "When in doubt, ask the subject" (Piliavin, 1989). Qualitative data may thus enable researchers to explain surprising results by providing insights into mediating processes at play.

We find these trends encouraging, as they highlight potential convergence among positivists and interpretivists. The recommendations offered by researchers specializing in quasi-experimental and case study methodologies provide researchers with a stronger incentive to combine qualitative and quantitative data, holding promise for bridging the divide observed all too often between positivists and interpretivists (e.g., Pfeffer, 1995; Van Maanen, 1995). Although positivists and interpretivists may endorse different means, they are working toward the common end of understanding and improving organizational life. Quasi-experimentation may offer organizational scholars an important tool for achieving this end.

Conclusion

Reflecting on the important role that quasi-experiments have played in our past, we hope that this article helps to solidify their place in the future of organizational research. Although the opportunity to blend science and art through quasi-experimentation may appeal to many scholars, we recognize that some scholars may conclude that the effort–reward ratio is simply too high to be worth their while. Particularly in times when there is a strong pressure to publish, the risk may seem rather high. However, we feel that the advantages discussed here justify the effort expenditure necessary to execute quasi-experiments. In addition to their theoretical and methodological appeal, quasi-experiments also offer researchers the practical benefit of making valuable contributions to organizations. We expect this opportunity to capture the attention, imagination, and excitement of many organizational scholars who seek

to "make a difference in the lives of organizations" (Shapiro & Rynes, 2005, p. 997) and "leave the world a better place than we found it as a result of the work we do" (Sackett, 1996, p. 416).

Notes

1. Unlike true experiments, which offer the benefits of the "magic of randomization" or "blind control" to ensure that treatment and control conditions are equivalent except for the independent variable being manipulated, quasi-experimentation involves the much more difficult task of prior identification of rival explanations for, or "threats" to, inferring causation from the experimental treatments. Campbell and Stanley (1966) identified 12 such potential threats. The first 8 threats deal with internal validity, which is concerned with the researcher's ability to draw a causal inference on the basis of research design alone: history, maturation, testing, instrumentation, statistical regression, selection, experimental mortality, and selection–maturation interaction. The final 4 threats deal with external validity, which is concerned with the researcher's ability to generalize the findings to other samples and settings: test–treatment interaction, selection–treatment interaction, experimental arrangements, and multiple treatment interference. Cook and Campbell (1979) expanded on these 12 threats to consider 4 implementation threats that arise because of the fact that experiments compare multiple conditions or groups. When participants in one condition become aware of the treatments that those in other conditions are receiving, it can lead to resentful demoralization, compensatory rivalry, compensatory equalization, or treatment diffusion. Quasi-experimentation thus requires the judicious choice of measurement occasions and comparison groups to assess and rule out such threats. Common designs, for example, are the nonequivalent control group design and the interrupted time-series design (for a full description of likely threats and appropriate quasi-experimental designs for addressing them, see Campbell & Stanley, 1966; Cook & Campbell, 1979; Cook et al., 1990; Shadish et al., 2002).

2. There are a number of resources available for researchers who seek further guidance. In addition to the classics by Campbell and Stanley (1966) and Cook and Campbell (1979), useful advice is offered by Evans (1976), Lawler (1977), Mowday and Steers (1979), McGrath (1981), Romanelli and Tushman (1986), Cook et al. (1990), and Shadish et al. (2002), and the social research methods knowledge base (Trochim, 2002).

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