

Full-Cycle Micro-Organizational Behavior Research

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We advocate a full-cycle approach to conducting organizational behavior research. Full-cycle research begins with the observation of naturally occurring phenomena and proceeds by traveling back and forth between observation and manipulation-based research settings, establishing the power, generality, and conceptual underpinnings of the phenomenon along the way. Compared with more traditional approaches, full-cycle research offers several advantages, such as specifying theoretical models, considering actual and ideal conditions, and promoting interdisciplinary integration. To illustrate these advantages, we provide examples of an implicit approach to conducting full-cycle research and present suggestions for fostering more explicit full-cycle research programs in the future. We encourage individual researchers to adopt this approach rather than to assume the field will naturally avoid the inevitable vulnerabilities that emerge from relying on particular methodological approaches. We conclude by discussing the relevant constraints and opportunities for engaging in full-cycle organizational research.

Key words: research design; full-cycle organizational behavior research

One of the more sustained debates in organizational research centers on whether the field has developed clear paradigms and the extent to which such paradigms are desirable. Some have argued that our theoretical paradigms lack conceptual rigor, and the linkages among them appear tenuous (e.g., Mone and McKinley 1993, Pfeffer 1993, Webster and Starbuck 1988, Zammuto and Connolly 1984). Others believe that subjecting the field to paradigmatic rules would be premature and might place the field in a “straightjacket” (e.g., Cannella and Paetzold 1994, Daft and Lewin 1990, Van Maanen 1995). At the root of this debate is a longstanding dilemma that has less to do with the evolutionary state of the field and more to do with its structure and content domain. On the one hand, studies of organizations can be highly phenomenological, yielding insights that strongly favor realism over internal validity (O’Reilly 1991). On the other hand, research that attempts to bolster existing paradigms by focusing on subtle conceptual refinements, methodological issues, and identifying boundary conditions for well-established theories often loses sight of the organizational context (Capelli and Sherer 1991).

One of the causes of this dilemma is the diverse backgrounds of organizational scholars. We come from many fields with distinct training and orientations toward investigating organizational research problems. Those trained in experimental design make causal inferences by considering human cognition and behavior in unambiguous control and treatment conditions. In contrast, those firmly rooted in the “field” gather first- or secondhand observations of individual behavior, which are notoriously imprecise, but rich in significance and realism.

Within these camps, the methodological approaches are multifaceted. Some field researchers prefer qualitative data as a source of empirical evidence, whereas others rely on quantitative data gathered from archival sources or individual respondents. Each of these diverse approaches to theory building and hypothesis testing offers distinct advantages and trade-offs. Such trade-offs make it difficult to simultaneously strengthen theoretical coherence without sacrificing innovative, important, and realistic insights.

To reconcile these trade-offs, organizational scholars have called for research based on multiple methodologies that, in combination, can increase the strength of insights derived through triangulation. There are clear advantages to a multimethod approach, well articulated elsewhere (e.g., Fine and Elsbach 2000; McGrath 1982; O’Reilly 1991; Singleton and Straits 1999, Ch. 13), including the replication of empirical findings and the possibility of providing both internal and external validity. For many scholars, the multimethod approach seems ideal—it offers an opportunity to refocus the field’s attention on the organizational context (Cappelli and Sherer 1991, Mowday and Sutton 1993) and reconnect the field to disciplinary perspectives on social psychology, economics, and sociology (e.g., Ilgen and Klein 1989).

In this paper, however, we make a different type of call—a call for a *full-cycle* approach to conducting organizational behavior research. We do not ask researchers to employ multiple methodologies simultaneously or to wait for others to employ complementary methodological approaches. Rather, we advocate the cyclical use of

diverse methodologies by individual researchers, beginning with the observation of naturally occurring phenomena and then taking steps to establish the power, generality, and conceptual underpinnings of the phenomenon of interest (see Cialdini 1980, 1995, 2001 for insight into applying this approach to social psychology). It is often assumed that a cyclical research approach will occur as a matter of course—that insights gained by scholars using one approach will inform the work of those using a different approach. In fact, this transfer of information occurs infrequently and sporadically because it must often cross networks of scholars in different disciplines using different methods. Therefore, to enhance the benefits of employing multiple methodologies and prevent theoretical insights from falling through the cracks of the normal research process, we suggest the responsibility for conducting full-cycle research falls squarely on the shoulders of individual researchers or small research teams.

We begin by defining full-cycle organizational behavior research in greater detail. We then describe the advantages of adopting this approach compared with more basic methodologies. To illustrate this approach, we present examples from our own research because we have direct knowledge about when we have benefited from full-cycle thinking, but we also draw on others' research, inferring the insights they may have gained from full-cycle thinking. To understand how the full-cycle approach might be implemented more comprehensively, we describe the evolution of escalation of commitment theory (e.g., Staw 1976) from the perspective of one of its primary contributors. Although our discussion focuses primarily on micro-organizational research, based on our own areas of expertise, we believe these arguments apply to macro-organizational research as well (e.g., Salancik 1979), though different arcs in the full-cycle approach are emphasized in micro- and macro-organizational research. We conclude by identifying roadblocks to conducting full-cycle organizational research and suggesting ways to address these problems.

Defining Full-Cycle Micro-Organizational Behavior Research

Robert Cialdini introduced the term “full-cycle psychology” to describe an ideal social psychology research program as a process of “. . . continual interplay between (a) field observation of interesting phenomena, (b) theorizing about the causes of the phenomena, and (c) experimental tests of the theorizing” (Cialdini 2001, p. 32). He used this approach to track and develop his comprehensive theory of influence, including his well-known research on “lowballing” and “basking in reflected glory” (e.g., Cialdini et al. 1976, 1978). As a social psychologist, Cialdini places a high priority on internal validity, but he also places an unusually strong emphasis on external validity. “Natural observation should not

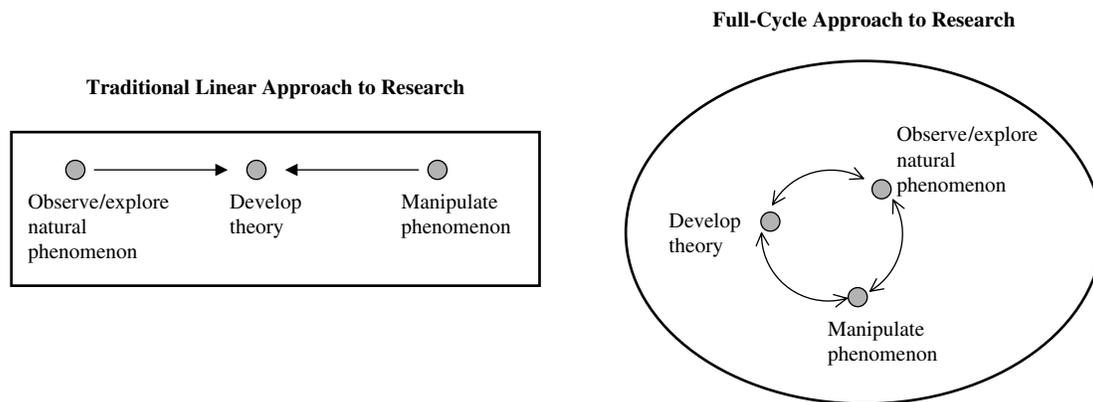
be restricted to the beginnings of the research venture; it also should be used to complete the final arc in the circle. That is, naturally occurring instances should be employed not only to identify effects suitable for experimental study but also to check on the validity of the findings from that experimentation” (Cialdini 1995, p. 70).

Following Cialdini, we define *full-cycle organizational research* as an iterative approach to understanding individual and group behavior in organizations, which includes: (a) field observation of interesting organizational phenomena, (b) theorizing about the causes of the phenomena, (c) experimental tests of the theory, and (d) further field observations that enhance understanding and inspire additional theorizing. Unlike other approaches, full-cycle research is not firmly rooted in one methodological domain or another, but moves from one to the next according to its current place in the cycle. This fluidity may be well suited to organizational research, which is concerned with understanding how the organizational context shapes individual and group behavior and how individuals shape the organizational context (Mowday and Sutton 1993, Schneider 1983, Staw and Sutton 1992). A full-cycle approach may be particularly useful in this regard because it can highlight the cyclical and reciprocal relationships between people and the organizational contexts in which they behave.

Contributions of a Full-Cycle Approach to Organizational Behavior

Organizational researchers have made calls for multi-method approaches before. How is our call for a full-cycle approach different? First, we consider the level of analysis to be a program of research rather than a paper or a pairing of studies. Second, we do not categorize research simply based on whether it is conducted in a laboratory or in the field. Instead, we suggest that full-cycle research centers on two distinct approaches to developing insight into a phenomenon: (1) knowledge based on *exploring, observing, or assessing* the phenomenon as it exists naturally, including data gathered from surveys, observation, or archival sources; and (2) knowledge based on *manipulating or controlling* the phenomenon, including data collected from laboratory or field experiments, scenario studies, and computational simulations.

Third, the primary benefit of the full-cycle approach is its recursive design. Traditional social science research emphasizes a linear flow, in which researchers develop theory based on one methodological approach and then return to the same methodological approach to test their new ideas. Rather than adopt a one-way or sequential progression, full-cycle research travels back and forth between the naturally occurring phenomenon and controlled settings (see Figure 1). This bidirectional flow enables researchers to draw theoretical insights from one setting and apply them to another.

Figure 1 Contrasting a Linear and Full-Cycle Approach to Research (Adapted from Cialdini 2001)

Characterizing research as a cyclical process is not completely new, of course. McGrath (1982, p. 71), for example, suggested that although the series of research choices for a given study, from formulating the problem, designing and executing the study, and analyzing and interpreting the results, is logically directional, it is also “systematically circular.” However, as McGrath (1982, p. 71) pointed out, the research process will likely follow a path that never arrives back at the exact starting point. A full-cycle approach takes this reasoning a step further and applies it to a program of research rather than a particular study or project.

The full-cycle approach also draws our attention to certain “arcs” or “routes” in the research cycle that are less traveled. According to Cialdini (2001), the least popular route in social science research is between experimentation and field observation, but this route provides a unique source of information about the validity and generality of experimental findings, and may be particularly important for organizational scholars compared to other disciplines. Social psychologists, for example, are concerned with how people influence each other in everyday social behavior. Given this orientation, they rely more heavily on controlled laboratory experimentation to understand general relationships among constructs. Sociologists, in contrast, are interested in studying and classifying human societies and the relationships among political, occupational, and intellectual groupings. They rely heavily on field research and observation to understand the particular settings in which individuals find themselves. Organizational scholars may be uniquely well positioned to travel the route between field observation and experimentation, in both directions, because of their desire to understand behavior in and across organizational contexts.

In the next section, we consider several advantages of conducting research in natural and controlled settings. Although the relative value of contrasting methodological approaches has already been effectively considered (e.g., Fine and Elsbach 2000; Singleton and Straits 1999, Ch. 13), we explain that the advantages of these

two major research approaches—observation and manipulation-based research—are complementary and maximized in an iterative, cyclical research program.

Advantages of Observational Research

In this section we consider any methodologies that observe or assess natural phenomena, including surveys, archival studies, observation, and interviews. Three major advantages—natural proof, relevance, and insight—arise from studying naturally occurring phenomena rather than manipulating them.

1. *Providing Natural Proof.* Observational research can provide natural proof—evidence that validates assumptions about whether the phenomenon occurs in nature and if the hypothesized relationships exist when examined in a realistic context. Controlled experimental conditions often isolate a small aspect of a social phenomenon. The frequency with which that aspect naturally appears is uncertain until it is observed in the field. For example, skepticism expressed about the cognitive dissonance paradigm (Festinger 1964) revolved around the counterintuitive principle of insufficient justification. Much of this skepticism was alleviated when research moved to natural settings. For example, in a study of ROTC membership during the Vietnam War, Staw (1976) found that recruits who learned they would not have been selected in the draft after joining ROTC were *more* motivated to pursue a military career than were those who had successfully avoided the draft by joining ROTC. Such evidence of the insufficient justification principle in a field setting provides natural proof of its existence.

2. *Determining the Relevance of the Phenomenon.* Observing rather than manipulating a phenomenon also enables researchers to understand whether it has significant consequences, that is, whether it matters. It is one thing to report findings from a controlled experiment that manipulates specific conditions, but it is quite another to demonstrate these findings in the field with frequency and important consequences. Some outcomes

are never considered in experimental research because the variables of interest cannot be manipulated and the outcomes cannot be realized. Research on top management teams (Hambrick et al. 1996), for example, is difficult to conduct in a controlled environment because high-status executives are reluctant to participate in academic research studies, and the average participant in a laboratory experiment would be hard-pressed to represent an officer of a large organization. In addition, many of the outcomes stemming from top management team dynamics may be difficult to generate, such as firm performance, or may take time to manifest, such as organizational growth.

3. *Identifying the Complexity of the Construct.* In natural settings, researchers can observe key variables in action and understand how they interact with one another. Such an appreciation for the complexity of a naturally occurring phenomenon can ultimately clarify theoretical models aimed at understanding it. For example, Tyler and DeGoey (1995) examined the basis for citizens' support for water conservation decisions in their community and found that people were more influenced in their attitudes by their relational bond to the authorities than by more objective concerns, such as the scarcity of water. These relational effects were stronger for those respondents who identified more with their community, suggesting that social identification served a moderating role in explaining the effects of procedural justice. Identifying this critical moderating variable in the field helped to develop a more complex understanding of procedural justice, and yet surfacing this moderating variable in a controlled laboratory setting may have proven exceptionally difficult.

As a field, organizational behavior benefits enormously from researchers who study naturally occurring phenomena that reflect the complexity and relative importance of key theoretical constructs. However, observational research falls short on other dimensions that manipulation-based research can address.

Advantages of Manipulation-Based Research

In this section we consider any research that controls or manufactures variables, including laboratory studies, field experiments, computer simulations, and even controlled field stimulations, such as "blind tester" studies (e.g., Bertrand and Mullainathan 2004).

1. *Identifying Causal Relationships.* A critical advantage of experimental design is that it enables researchers to identify causal relationships and rule out alternative explanations by isolating and varying the levels of independent variables. So long as the experimenter is able to manipulate the variable of interest effectively, he or she can derive meaningful insights about the relationship between the focal construct and the dependent variable. The observational approach can, therefore, better

answer the question, "does it exist?" and offer natural proof, while the manipulation-based approach may better answer the question, "why does it happen?" and offer causal proof.

2. *Enhancing Generalizability of Psychological Principles.* Findings from observational research may offer greater practical relevance because they provide insight into outcomes of greater importance. However, manipulation-based research may offer greater theoretical relevance because the results are more highly generalizable. That is, the underlying links among constructs likely apply to other people (because of randomization) in other contexts (because of the artificiality of the laboratory context). Theoretical insights from observational research are sometimes limited because the sample has particular qualities that correlate with key variables of interest. The increased control of manipulation-based research helps to uncover general relationships rather than idiosyncratic ones resulting from "noisy" or unmeasured factors present in the field. Thus, experimental research helps to build theory by making more elegant, parsimonious predictions, rather than those that relate only to a unique sample in a specific situation.

3. *Specifying Boundary Conditions.* Just as observational research can expose scholars to the complexity of social phenomena, experimental research can simplify and help explain such complex effects in more precise detail. Manipulating a phenomenon in a controlled setting can help determine its precise boundary conditions, which sometimes are not present in the field but are still meaningful for practical and theoretical reasons. For example, Allmendinger and Hackman (1995) observed that it takes more than one group member over equal distributions of a category (e.g., men and women) for most members to think of the group as unbalanced or unequal. Identifying this "tipping point" requires investigating a full spectrum of fine-grained numerical differences across groups that do not exist in most organizations. Manipulating a group's sex composition one member at a time would provide a more rigorous test. Such manipulation can be performed experimentally (e.g., Chatman et al. 2005b) or using computer simulations (e.g., Harrison and Carroll 1991), in which values vary according to theoretically derived predictions.

Combining Approaches: Realizing the Advantages of a Cyclical Research Program

Both observation and manipulation are valuable research approaches for developing and testing micro-organizational theories. However, recognizing that, "it is not possible, in principle, to do an unflawed study" (McGrath 1982, p. 77), one that simultaneously maximizes generalizability, precision, and realism, we must look to research programs rather than single studies for theoretical insight. The key to developing robust

theory is the selection of distinct, yet complementary, research strategies and measures that do not share the same methodological weaknesses (Singleton and Straits 1999, p. 417). Specifically, observing *and* manipulating the phenomenon of interest in a *cyclical fashion* may be optimal, offering several critical advantages for conducting organizational behavior research.

1. *Specifying Comprehensive Theoretical Models.* A full-cycle research approach may foster theoretical development by deriving insights from research using one methodology and validating these insights in research using another methodology. For example, Chatman et al. (1998) used an experimental business simulation and manipulated organizational demography (homogenous versus heterogeneous “organizations”) to understand how demographic categories become salient and influence behavior. Drawing on similarity-attraction theory, they hypothesized that demographic categories, such as sex, would be less salient in demographically homogeneous organizations. They did not expect that all-female organizations would differ materially from all-male organizations. However, the salience of sex as a social category was the *highest* within the all-female organizations.

Armed with the insight that all-male and all-female groups may differ, Chatman and O’Reilly (2004) sampled members of an organization that included work groups whose sex composition varied (all-male, all-female, male-dominated, female-dominated, balanced). Using a survey-based approach, they found that in contrast to similarity-attraction predictions, women expressed a greater likelihood of leaving homogeneous groups than did men. The authors hypothesized that women expressed a greater likelihood of transferring out of all-female groups because of historical status differences between men and women at work—all-female groups would not afford women the advantages of belonging to higher-status groups, particularly those that included men. Given the long history in which men have dominated high-status roles in organizations (Ridgeway and Smith-Lovin 1999), this status-based explanation was plausible and more complete than an explanation offered by similarity-attraction theory.

Chatman and her colleagues then went back to the lab to explore these status effects further (Chatman et al. 2005b). They manipulated both the sex composition of groups of four subjects and the nature of the group task (historically typical for men—math task, or for women—verbal task). When a token group member’s sex was congruent with the task, that individual’s performance, using objective and subjective measures, improved. However, when the minority member came from the task-incongruent sex (women-math, men-verbal), he or she performed significantly worse, and was evaluated by coworkers as performing significantly worse than base-rate expectations. Thus, the

harmful effects of being a token group member seemed to dissipate when sex indicated higher status—in this case, greater task expertise.

This sequence of studies highlights some benefits of adopting a full-cycle approach. First, an unexpected finding prompted the researchers to explore whether the difference between all-female and all-male groups actually mattered. By including a full range of work groups with different sex compositions and, most importantly, all-female groups, which are not prevalent in business organizations, the researchers were able to confirm the real-world existence of the phenomenon—differences in how men and women react to being in differently composed groups. Second, this led to an insight about historical status differences that improved on the conventional wisdom of similarity-attraction theory. A subsequent lab study validated and developed this insight, showing that status varied as a function of sex and the historical typicality of the task, and that performance was a function of that status.

2. *Enabling Consideration of Both Actual and Ideal Conditions.* Another primary benefit of a full-cycle approach is that both actual and ideal conditions of key theoretical constructs can be studied. Some ideal conditions may be overlooked simply because they are infrequently encountered in the field. For example, aside from sex differences, the business simulation by Chatman et al. (1998) described above also suggested that various combinations of organizational culture orientations and work group composition might interact to influence group performance. Their experimental results suggested that heterogeneous groups with collectivistic orientations generated more creative and comprehensive solutions to various business problems compared with all other combinations (homogeneous organizations emphasizing either type of culture and heterogeneous organizations emphasizing individualistic cultures).

Chatman and Flynn (2001) conducted a follow-up survey-based longitudinal study with MBA student teams and vice presidents in 11 business units of a financial services firm. They found that demographically diverse work groups with collectivistic norms were more effective than diverse groups with individualistic norms, or less diverse groups. However, their results also revealed that demographically diverse groups were far less likely than homogeneous groups to *develop* collectivistic norms. Thus, the potential advantages of the collectivistic-heterogeneous combination may have gone unnoticed if previous manipulation-based research had not included the range of possible combinations involving cultural orientation and demographic composition. Although demographically heterogeneous groups that emphasize collectivistic values are rare in organizations, we now know that they *could* exist and that they are superior in many ways. As a result, we might

focus more attention on how to encourage heterogeneous groups to adopt collectivistic values, perhaps by testing the effectiveness of various interventions in a controlled setting.

3. *Enabling Understanding of Complex Phenomena.*

The full-cycle approach also enables researchers to study complex phenomena. Phenomena can be observed in the field, broken down into their essential components, and sequentially scrutinized piece by piece in a controlled environment. Gersick (1988) studied group timing by observing eight naturally occurring task force groups over their entire life span. She found that “their lives had not gone the way traditional models predicted . . . the paradigm of group development as a universal string of stages did not fit” (Gersick 1988, p. 12). Although she found enormous variation in how the groups approached their work, one aspect that was consistent across the diverse groups was their timing. Her observations led her to develop a theory of “punctuated equilibrium” characterized by three phases. In the first phase, groups experienced long periods of inertia that were punctuated in the second phase by “concentrated, revolutionary periods of quantum change” (Gersick 1988, p. 16). In phase three, the groups engaged in a final burst of activity to complete their work.

Researchers, including Gersick, have continued to investigate the role of time in group settings with more focused studies of teams working under highly controlled conditions. In contrast to the teams she observed in the field, Gersick (1989) examined manufactured groups, all of whom worked on the same tasks. By controlling the project duration and the task environment, she was able to replicate the trends she had observed in her field study and identify key timing issues with greater precision. Subsequent experimental research has varied the stability of group deadlines (Waller et al. 2002), finding that groups increased their attention to time as deadlines neared rather than at the midpoint, and identified boundary conditions to the punctuated equilibrium theory, such as formal instructions and a lack of familiarity among group members; this decreased a group’s focus on midpoints (Okhuysen and Waller 2002). Researchers have also brought the phenomenon back out to the field to increase understanding of its generalizability, finding, for example, that more effective groups experienced moderate levels of task conflict at project midpoints and rises in relationship conflict near project deadlines (e.g., Jehn and Mannix 2001). Thus, in this case, the full-cycle approach has helped researchers investigate a significant, but unwieldy, phenomenon (e.g., the evolution of team dynamics) in a rigorous manner.

4. *Assessing Reciprocal Influence Between People and Situations.*

Compared with single or multimethod research approaches, full-cycle organizational research

may be better able to capture the reciprocal influence between people and situations. Research that relies on manipulation and control often employs the principle of “random assignment”—assigning subjects to situations that represent control or treatment conditions. Laboratory studies may even develop “strong situations” that are designed to overpower individual differences (Kenrick and Funder 1988). Such control allows researchers to isolate and better understand the influence of situations on individual behavior. However, people do not encounter situations randomly; rather, they purposefully select situations that appeal to them. Once people select themselves into situations, they may then exert a meaningful and lasting influence (e.g., Kohn and Schooler 1978, Miner 1987).

Longitudinal field studies have shown that people select organizations according to how well the organization suits their personal profile (Cable and Judge 1996). Those who achieve a high level of “fit” are more likely to stay with their employer and become outstanding performers (O’Reilly et al. 1991, Chatman 1991). This process fundamentally changes the nature of the situation for those who subsequently consider joining the organization. However, it is difficult for field researchers to isolate these changes because they occur over long periods of time. One possible solution is for researchers to design computer simulations that can test a broad set of parameters whose values vary according to theoretically derived predictions (e.g., Harrison and Carroll 1991). These parameter values can, for example, represent ways that people flow into and out of organizations, and how this dynamic “churn” influences culture transmission and an organization’s selection process over time. Researchers can then take these insights back to the field to test their validity (e.g., Chatman et al. 2005a). Thus, the full-cycle approach would enable researchers to assess the kinds of people who would select into specific situations and the kind of reciprocal influence that would take place between these people and the organizational context.

5. *Injecting Flexibility into a Research Program.*

As can be seen from some of the examples we provided above, a full-cycle approach adds flexibility to a research program. Extensive observation or close scrutiny in a controlled setting may be more or less suitable as different types of research questions arise at different points. One of the advantages of experimental research—eliminating the possibility of maturation effects—is also one of its drawbacks. Often we are interested in how a phenomenon evolves over time, which prompts us to conduct longitudinal field research. On the other hand, a strong advantage of research in a controlled environment is its expediency, particularly in laboratory settings. Ideas can be hatched, tested, and confirmed in a relatively short period of time. Researchers who adopt

the cyclical approach are more flexible and therefore better able to respond to these unanticipated concerns.

Increased flexibility can help researchers reconcile a conceptual paradox. Flynn (2003a) observed that retrospective accounts of employee helping behavior were egocentrically biased in that people reported that they gave more than they received. This seemed to contradict previous research on politeness and norms of interpersonal interaction (Brown and Levinson 1987, Goffman 1971). Flynn hypothesized that these differences were driven by temporal perspective—politeness norms were stronger immediately after help was given, but egocentric biases eventually took over. To test this idea, he turned to a controlled environment—asking subjects to participate in an episode of helping behavior and then manipulating their role in the exchange and the timing of their evaluation. The results revealed a crossover effect; people initially valued favors more as receivers than as givers, but as time passed, receivers decreased their evaluations and givers increased their evaluations (Flynn 2003b). To test the robustness of this finding, Flynn surveyed a sample of airline employees who reported on previous favors in which they covered a work shift for another employee (a highly uniform favor). The results of this field research confirmed the experimental findings. Thus, the flexibility afforded by the cyclical approach—beginning with field observation, followed by theorizing and experimentation, and ending with validation in the field—helped to reconcile a conceptual paradox.

6. *Encouraging Interdisciplinary Integration.* Finally, adopting the full-cycle approach can strengthen connections between organizational behavior and other relevant fields such as social psychology. Given their orientation toward context, organizational behavior researchers can offer social psychologists a chance to test the robustness and generalizability of their experimental findings. Psychologists, in turn, could refine laboratory techniques, offer tighter causal linkages among theoretical constructs, and elaborate on those theories in controlled settings. Several areas of interdisciplinary integration emerge as promising, including research on motivation and employee helping behavior.

Organizational researchers who study employee motivation have paid little attention to regulatory focus theory—a powerful and pervasive view of motivation advanced in social psychology (see Freid and Slowik 2004 for an exception). Regulatory focus theory posits that people are guided by both a promotion focus and a prevention focus. A promotion focus prompts people to align their actual selves with their ideal selves, whereas a prevention focus prompts people to align their actual selves with their normative or “ought” selves (e.g., Brockner et al. 2002). Much of the research on regulatory focus has taken place in the lab, but there

are clear implications for organizational members. For example, charismatic leaders may be better able to motivate followers with a promotion focus than with a prevention focus (Benjamin and Flynn 2004). The potential contribution of a full-cycle research approach is clear—conducting observational research in organizations would help enhance the theory’s relevance, while experiments would increase understanding about how to prime regulatory foci.

The benefits of the full-cycle approach might also apply to research on helping behavior. Social psychology research on helping behavior relies heavily on experimental methods, whereas research on employee helping behavior relies primarily on observational studies. Much of the research on helping in social psychology attempts to identify factors that lead to greater compliance in agreeing to requests for help (e.g., Cialdini 1993). These insights, which are drawn primarily from experimental research, have found their way into the classroom as well as the boardroom. Despite their popularity, we know little about the long-term consequences of using these tactics repeatedly because experimental research is generally restricted to one-shot trials. In organizations, where exchange relations are more lasting, immediate compliance may not be the *only* outcome of concern. Employees may be equally concerned about obtaining help in the future and whether the giver will speak positively about them to other employees. Once again, a full-cycle research approach might be mutually beneficial. Social psychologists would benefit by examining the potentially averse long-term ramifications of compliance tactics, and organizational psychologists would benefit by relying on controlled experiments to validate the efficacy of exchange tactics among employees.

Summary

Despite its many benefits, the multimethod approach to conducting research falls short of fulfilling the ideal qualities of a cyclical research program. Journal articles that feature studies using multiple methods typically begin with an experimental study and end with a field study. A few slip in findings from an alternative method along with more conventional approaches (Sutton 1997). Still fewer take the opposite approach, in which a field study precedes an experimental study (Gilovich et al. 1985, Flynn and Staw 2004). These articles offer several advantages over articles that are restricted to one type of methodology or the other. The limitation with this approach, however, is that the cycle is not yet complete. If one addresses each research question by first conducting an experiment and then seeking confirmation of the experimental results through a field-based assessment, then the field research becomes stronger based on the experiment, but the experimental research is not equally improved. Similarly, if one addresses research questions by first observing a phenomenon in the field and then

seeking confirmation of these observations experimentally, then the experimental research becomes stronger, but the field research does not. To ensure we are truly capturing the benefits of using multiple methodologies, we need to conduct research in a recursive, or cyclical pattern.

We note that the insights gained from the work we cited in the previous section were not derived from a pair of studies administered in close succession or using the same method, but from a series of studies that took a less linear, but nonetheless “programmatically,” path. The full-cycle approach suggests that every research study offers theoretical insight, which can be exploited by using different methods of research. In fact, the full-cycle approach may be helpful in identifying the next step in each of these research programs. For example, Chatman et al. (2005b) might increase the robustness of their theory regarding historical status of demographic differences by examining other salient demographic categories that contribute to perceptions of status in organizations, such as race, age, or nationality (Spataro 2002, Spataro and Anderson 2004). By combining observational and experimental methods in a continual recursive pattern, robust findings that offer causality, relevance, and generalizability may emerge.

An Example of Full-Cycle Research: The Escalation-of-Commitment Paradigm

The research cited above occasionally employed aspects of a full-cycle approach. In this section, we describe a program of research that has benefited from a slightly more intentional use of this method. Escalation of commitment refers to a tendency to “throw good money after bad”—to try to recover sunk costs when faced with a losing course of action. Numerous studies have demonstrated this phenomenon and clarified its underlying psychology in multiple organizational and laboratory settings (for a review, see Brockner 1992). We were curious about some of the determinants that led to the successful growth of the escalation paradigm. To help us identify and understand its sources of success as a comprehensive and robust theory, we interviewed one of the paradigm’s main contributors, Barry Staw, who told us about how he built his own program of escalation research.

Cycle 1: Personal observation → Develop initial tenets of theory. Staw told us that he first observed the escalation phenomenon while in graduate school. As he watched the news coverage of the war in Vietnam, the war became more unpopular and unsuccessful. As the outcome began to look increasingly bleak, however, the number of troops involved steadily increased. More surprisingly, both Johnson and Nixon reacted to the steadily rising number of casualties by publicly reiterating their commitment to fighting the war and supporting

these statements by sending additional troops overseas. Around this time, Staw also encountered the escalation phenomenon in his personal life. Years earlier, his father had launched a chain of successful discount stores in southern California. As larger chains of discount stores began forming, many of the smaller chains started to disappear, unable to compete with the larger organizations that were reaping the benefits of scale. The end seemed near for the family business, but Staw’s father was desperate to avoid losing the company, and so he poured his previous earnings into saving the business. He eventually pulled back, but not before losing his business and nearly all of his life savings.

In his original article on the benefits of conducting full-cycle research, Cialdini (1980) lauds the process of systematic personal observation because it often leads to insightful theoretical contributions. Staw’s personal experiences convinced him that the escalation of commitment to a losing course of action was a powerful phenomenon with important, and often negative, consequences. While it is clear that researchers should be systematic in their approach to understanding everyday social psychology, particularly in organizations, they should also be open to observations that are made unintentionally.

Cycle 2: Initial scientific test of the validity of the observation → Demonstrate the existence of the phenomenon (boundary conditions, causality). “Knee-deep in the big muddy” (Staw 1976) was the first in a series of experimental studies designed to highlight the escalation effect. Using a hypothetical investment scenario, Staw demonstrated that subjects who incurred negative outcomes following their investment decisions became more committed to their previous decisions and more willing to assume future risk. Just as Staw had observed in his own experience, escalation was particularly likely when the subject was personally responsible for incurring a negative outcome. Other experimentalists picked up on the concept, finding additional factors that served as antecedents or catalysts to the phenomenon (e.g., Teger 1980, Brockner and Rubin 1985, Staw and Ross 1987).

Cycle 3: Explore natural phenomenon in its full complexity and verify ideas in the field → Increase external validity of experimental findings and identify theoretical extensions. Based on his work in the laboratory and on the work of other experimental psychologists, Staw and his colleague, Jerry Ross, outlined a model of escalation behavior. Their theoretical model proposed a temporal sequencing for project, psychological, social, and structural determinants of escalation of commitment (Staw and Ross 1987). The next logical step was to test this model, but Staw felt that a laboratory experiment, or even a series of them, would not be appropriate. Some of the psychological factors they had identified were difficult to replicate in the laboratory (e.g., structural determinants, felt responsibility), and the stakes involved in

their experimental tasks were not as high as those experienced outside of the laboratory. Instead, it was time to gather systematic evidence of the phenomenon in its naturally occurring form, evidence that would allow for meaningful testing and elaboration of their preliminary model.

Staw and Ross conducted two case studies—Expo 86 (Ross and Staw 1986) and Shoreham Nuclear Power Plant (Ross and Staw 1993). Both were publicly funded projects that spun wildly out of control through the escalation cycle and led to financially devastating consequences. Shoreham, for example, cost over \$5 billion and was eventually abandoned without ever having begun operation. In their examinations of Expo and Shoreham, Staw and Ross showed strong qualitative support for their temporal model of escalation. A subsequent study also showed strong quantitative support for particular aspects of the model. A study of the National Basketball Association showed that the amount that teams spent for players influenced how much playing time they were given and how long they stayed with their respective teams, controlling for their performance (e.g., number of points or assists) on the court (Staw and Hoang 1995).

Cycle 4: Develop new ideas from research and observations in the field → Test theoretical extensions through further experimentation. Staw's field work served as an opportunity to obtain validation, but also as a source of further inspiration. In particular, Staw was intrigued by the paralyzing effects of escalation forces. Expo '86 and Shoreham provided strong evidence that the escalation of commitment could lead to potentially disastrous outcomes, but what factors might prevent, rather than strengthen, escalation? Staw and his colleagues (e.g., Simonson and Staw 1992) derived hypotheses about de-escalation from his previous field research and theorizing on the topic (Staw and Ross 1987), which they set about testing in an experiment. The design of the experiment closely followed Staw's original (1976) design, but in this version, the comparative merits of several de-escalation techniques, including thorough decision making, minimum goal setting, threat reduction, self-diagnostics, accountability for decision process, and accountability for decision outcome, were considered. The results of the experiment suggested that some of these procedures, such as increasing the thoroughness of decision making and a person's accountability for decision outcomes, worked in de-escalating commitment.

Cycle 5 and beyond: Look for opportunities to increase robustness of theoretical extensions → Test new hypotheses by examining naturally occurring phenomena. In the initial test of de-escalation techniques, Simonson and Staw (1992) suggested that a controlled experiment would be especially useful at this stage of research because contrasts would not be contaminated

by the field setting or confounded by differences in organizational implementation. Following this study, Staw decided the de-escalation idea required an empirical test in the phenomenon's natural context to enhance its robustness and generalizability. Along with colleagues (Staw et al. 1997), he set about looking for an appropriate setting and found it in the banking industry. Retaining or writing off bad debt is a clear example of deciding whether to "throw good money after bad." In experimental studies by Simonson and Staw (1992) one of the factors that decreased escalation was threat reduction, which can mitigate self-justification (those who are responsible for escalating commitment to a losing course of action have a strong sense of self-justification). In fact, the findings of Staw et al. (1997) revealed strong support for the threat reduction hypothesis—the turnover of senior bank managers led to a de-escalation of commitment to problem loans.

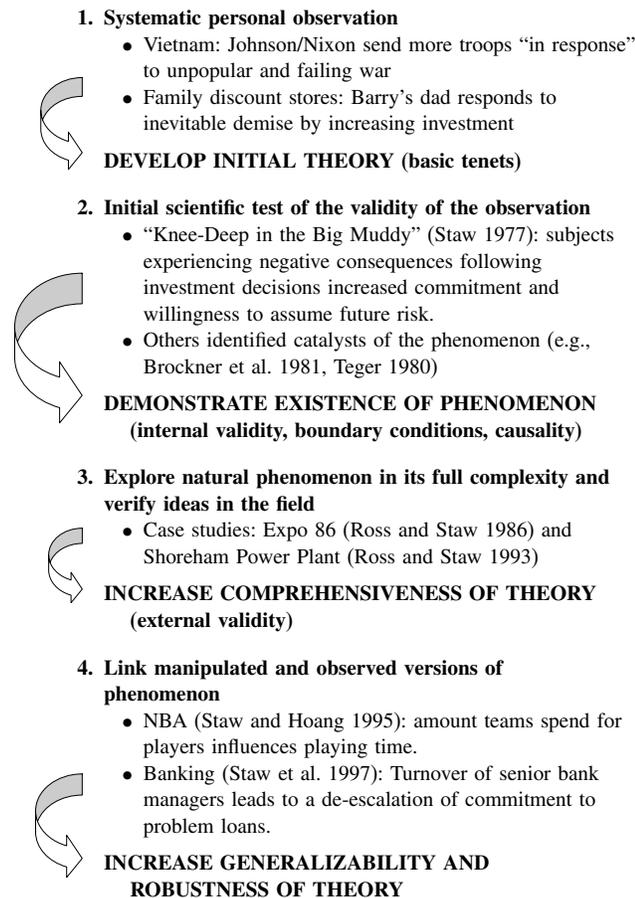
Lessons from a Full-Cycle Analysis

Figure 2 illustrates our construction of a full-cycle map for Staw's program of escalation research. Although this is a simplistic, rational, and retrospective view of how the paradigm unfolded, the evolution of the escalation paradigm highlights several of the advantages of full-cycle organizational psychology. First, drawing inspiration and ideas from field settings, surprising effects, and even personal experiences can help researchers identify important organizational phenomena. Second, laboratory studies afford the opportunity to test the boundaries of individual and social psychology and allow for continual refinement of theoretical models. Third, rigorously testing theoretical models in naturally occurring contexts provides not only meaningful validation, but the possibility of future theoretical extensions.

It is worth noting that the full-cycle approach was not entirely intentional in this case, but the advantages of conducting cyclical research emerged nonetheless. This serendipity may be true of several examples we have already cited in this paper, including from our own research. To extract even greater benefits from the cyclical approach, we encourage researchers (including ourselves) to apply the approach more intentionally. By the same token, we realize there may be some who are already applying the full-cycle approach. Their efforts may not be well publicized because much of this work happens *between* rather than within published articles, the field's main vehicle for communicating research. The invisible quality of cyclical research makes it difficult to recognize and reward high-quality full-cycle research programs.

Finally, one critical point that occurred to us based on our own experiences as well as our conversation with Staw is that the onus of adopting a full-cycle approach falls on the shoulders of an individual researcher, rather than the field as a whole. At each point when the

Figure 2 Escalation of Commitment Theory Development in Full-Cycle Terms



paradigm needed further support in another domain, Staw made an individual decision to push the paradigm in that direction. His reservations about whether someone else would “take the reins” were well founded. A cyclical program of research that draws on a combination of methodologies is unlikely to occur spontaneously among a network of loosely affiliated researchers. Instead, a researcher must personally carry her ideas forward, or at least directly recruit others to do so. We return to this point, and the challenges researchers face as a result, in the final section.

Constraints on Conducting Full-Cycle Organizational Behavior Research

The advantages of conducting full-cycle organizational behavior research are alluring, but the disadvantages of adopting this approach are also worth considering. First, the obvious concern for most scholars is whether conducting cyclical research will lead them to become a “jack of all trades and a master of none.” A full-cycle approach requires broad-based methodological expertise, but researchers typically acquire training in one approach and, as they begin to conduct research in that

domain, find little reason to pursue others as rigorously. There are several factors that support such specialization. In particular, as researchers become more senior they are increasingly expected to be experts in their theoretical domain as well as a specific methodological approach. Researchers themselves may develop less tolerance for being amateurs rather than experts at certain methodological approaches as their seniority increases. In addition, as administrative and teaching burdens increase, again as is typical of an advancing career, most academics have less time to devote to such retooling. Further, departments or groups of researchers may attract members who adopt similar research approaches to benefit from collaboration and economies of scale, or simply based on similar taste and training (e.g., Pfeffer 1983). Thus, in addition to the intellectual challenges of becoming an expert in multiple methods, adopting other methodological approaches may also violate strong situational norms favoring consistency and expertise over time.

Second, it may be risky for individual researchers to assume that others will recognize the full-cycle approach as superior. Academic journals tend to specialize in a limited set of methodologies. As a result, editorial board members for these journals may be chosen for their expertise in that method and less familiar with the strengths of different approaches to conducting research. Most reviewers expect scholars to ground their contributions in existing research findings that support or relate to their new ideas. Grounding new ideas in previous contributions usually means that the same methodology should be undertaken to compare the relative strength of the new idea. This expectation may be stronger in some areas than in others. For example, it may be difficult for an experimentalist to convince a group of ethnographers that she has captured an organizational phenomenon using a laboratory experiment when the normative approach has been to use qualitative methods.

Third, specialization in academic journals may also limit the possibility of enacting the full-cycle approach at the field level. Research outlets aim to publish a limited set of robust empirical findings. Little time is spent delving into sources of inspiration, unexpected effects of control variables, or potential theoretical extensions that went unexplored. Further, to get refereed papers published, researchers must make a compelling case for the strengths of their approach. In many cases, these scholars must be prodded in the editorial process to articulate weaknesses, especially those that arise from a single methodological focus. These insights, therefore, often are retained by the individual researcher rather than communicated to others in the final article. Thus, those who emphasize a particular research approach will find little opportunity to pick up on an idea presented by scholars using a different approach.

Finally, the issue of evaluation and reward extends beyond the journal review process. Will the promotion process recognize and reward full-cycle work? Further, will decision makers be willing to tolerate the added costs of achieving it? One of the primary advantages of the experimental method is its cost-efficiency. Experiments are typically conducted within a laboratory infrastructure that eliminates many of the challenges encountered in the field, such as unanticipated delays in collecting data, low response rates, and challenges of gaining access to sites and appropriate data. Experimenters considering a field study would need to forego the efficiencies of the lab environment. Before adopting a full-cycle approach, career-minded scholars may need to be convinced that the benefits of additional training and effort necessary to master multiple research methodologies truly outweigh the benefits of mastering only one.

Fostering Full-Cycle Organizational Research

Given these constraints, how might organizational scholars be encouraged to conduct full-cycle research? First, we strongly encourage researchers at all stages of their careers to “dive in” and learn a methodological approach that they have not yet mastered or used. Gaining additional expertise to offset the inevitable weaknesses of any single methodological approach is essential (McGrath 1982). Researchers might undertake such retooling during sabbatical breaks, or departments might adopt norms that support faculty attendance at multiple methodological seminars and workshops. Departmental seminar series might include a yearly training seminar by an expert in a particular methodological domain that is not represented within the department. Or, borrowing the lab concept from psychology and other research fields, researchers working on similar problems (using different methods) can gather weekly to discuss their in-progress research and, as a result, gain expertise on different methodologies within a specific domain. At the same time, however, scholars must come to believe that adopting complementary research approaches to complete the full cycle is actually worth the time, effort, and ego exposure that are required to do it well.

If scholars are concerned about the risks involved in conducting research outside their usual domain, particularly a lack of mastery of alternative research methodologies, they might also consider collaborating with others who have similar interests but who use different methods. For example, an experimentalist studying innovation could team up with a field researcher interested in innovation. The experimentalist might take the lead role in studies of innovation that rely on manipulation, while the field researcher would assume primary control of studies relying on observation. Some

scholars have taken this collaboration idea a step further, engaging in intentionally “adversarial” collaborations (e.g., Gilovich et al. 1998, Mellers et al. 2001) intended to stimulate divergent thinking and enhance a theory’s robustness. Cross-method collaboration would not only help researchers retain focus in their methodological expertise, but would help ensure the communication of insights to other researchers because detailed knowledge is best communicated among people who have direct, ongoing interactions (e.g., Hansen 1999).

Second, some scholars might find it difficult to employ a full-cycle approach because they are unable to decide when to observe the natural phenomenon and when to manipulate it. Researchers might resolve this dilemma by developing and adhering to itineraries that monitor their travel back and forth from observational settings to controlled environments. The full-cycle approach does not require a perfect balance between observation and manipulation. Instead, a researcher could alternate regularly between the two approaches or he could designate, for example, every fourth study to be conducted using the other approach (exploration versus manipulation). Further, the field could sponsor research that explicitly tracks when certain methodologies are optimal in the development of a research program, or when scholars are most likely to adopt new approaches in their career. There may be points in a research program when certain types of research are simply inappropriate and constrain progress. Or, scholars may experience a natural evolution of their methodological approaches over the course of their careers because of time pressures for career hurdles, such as tenure reviews, and the resulting increases in flexibility that attaining tenure provides.

Third, the criteria used to judge the value of empirical contributions could be adjusted to encourage full-cycle research. Professional associations such as the Academy of Management can play a key role by bestowing awards for programs of research, paying particular attention to those who adopt a cyclical approach, in addition to awarding specific papers. Dissertations represent another opportunity to reward those who take the initiative to conduct full-cycle research. Such support and encouragement may come from the faculty who oversee doctoral dissertations and, again, from scholarly associations that provide recognition for outstanding research.

Academic journals can do their part by not only featuring full-cycle work, but also promoting the communication of cyclical insights. Journals might encourage researchers to include in their discussion sections the limits of the current research that could be addressed by employing alternative methods. Or, focusing on the first step in the full-cycle approach—field observations of interesting phenomena in the field—it would be useful to develop outlets for communicating the early stages of idea development. Our current journal article formats are not conducive to conveying how a researcher

became puzzled by a personal observation and how this observation became a basis for the reported research. Even retrospective accounts such as that provided by Staw above, would provide clues to those who struggle with finding a research question, such as graduate students. Without the links to the phenomenon, most papers will report their point of entry into a study as some gap in previous research. Although such intentional linkages promote greater paradigm development, they also increase the possibility that the field will become mired in detailed activities rather than focused on developing interesting and dynamic theoretical insights. It is worth noting that gaps in research may exist because they are, indeed, not important enough to study, and thus, that not all gaps are worth closing through research efforts.

Finally, the cyclical approach should be fostered at the institutional level. In particular, grant-making institutions, such as the National Science Foundation (NSF), might consider creating a funding category or initiative to fund cyclical research programs in organizational behavior. The NSF states that its primary goal is to “initiate and support, through grants and contracts, scientific and engineering research and... appraise the impact of research upon industrial development and the general welfare” (<http://www.nsf.gov/about/>). Funding full-cycle micro-organizational behavior research would help the NSF achieve this goal of combining scientific rigor and practical relevance.

Conclusions

We advance a full-cycle approach to conducting micro-organizational behavior research, in which the observation of naturally occurring phenomena leads to controlled experimentation that can be validated through field studies, which, in turn, can stimulate further experimentation, and so on. Although difficult to master, this cyclical approach provides clear advantages over single or multimethod approaches to conducting research. From a theoretical standpoint, full-cycle research can make significant conceptual contributions because it enables researchers to tackle more encompassing phenomena. Full-cycle researchers can also make a bigger impact on the practice of management because they are able to demonstrate relevance as well as rigor. This may make it easier for grant-making institutions, such as the NSF, to decide which research programs in organizational behavior are worth funding. The NSF is clearly concerned with supporting research that is meaningful and consequential, rather than artificial and epiphenomenal. Given their pragmatic bent, cyclical programs of micro-organizational behavior research represent an attractive investment opportunity. The goal for organizational behavior scholars is to ensure that such investment would be money well spent.

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References

- Allmendinger, J., J. R. Hackman. 1995. The more the better? A four-nation study of the inclusion of women in symphony orchestras. *Soc. Forces* **74** 423–450.
- Benjamin, L., F. Flynn. 2004. Leadership style and followers’ regulatory focus: Value from fit? Working paper, School of Business, Columbia University, New York.
- Bertrand, M., S. Mullainathan. 2004. Are Emily and Brendan more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *Amer. Econom. Rev.* **94**(4) 991–1014.
- Brockner, J. 1992. The escalation of commitment to a failing course of action: Towards theoretical progress. *Acad. Management Rev.* **17**(1) 39–61.
- Brockner, J., J. Rubin. 1985. *Entrapment in Escalating Conflicts*. Springer-Verlag, New York.
- Brockner, J., J. Z. Rubin, E. Lang. 1981. Face saving and entrapment. *J. Experiment. Soc. Psych.* **17**(1) 68–79.
- Brockner, J., S. Parachuri, L. C. Idson, E. T. Higgins. 2002. Regulatory focus and the probability estimates of conjunctive and disjunctive events. *Organ. Behavior Human Decision Processes* **87**(1) 5–18.
- Brown, P., S. Levinson. 1987. *Politeness: Some Universals in Language Usage*. Cambridge University Press, Cambridge, UK.
- Cable, D. M., T. A. Judge. 1996. Person-organization fit, job choice decisions and organizational entry. *Organ. Behavior Human Decision Processes* **67**(3) 294–312.
- Cannella, A. A., R. L. Paetzold. 1994. Pfeffer’s barriers to the advance of organizational science: A rejoinder. *Acad. Management Rev.* **2** 331–341.
- Cappelli, P., P. Sherer. 1991. The missing role of context in OB: The need for a meso-level approach. B. M. Staw, L. L. Cummings, eds. *Research in Organizational Behavior*, Vol. 13. JAI Press, Greenwich, CT, 55–110.
- Chatman, J. 1991. Matching people and organizations: Selection and socialization in public accounting firms. *Admin. Sci. Quart.* **36**(3) 459–485.
- Chatman, J., F. Flynn. 2001. The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Acad. Management J.* **44**(4) 956–974.
- Chatman, J., C. A. O’Reilly. 2004. Asymmetric reactions to work group sex diversity among men and women. *Acad. Management J.* **47**(2) 193–208.
- Chatman, J., J. Polzer, S. Barsade, M. Neale. 1998. Being different yet feeling similar: The influence of demographic composition and organizational culture on work processes and outcomes. *Admin. Sci. Quart.* **43**(3) 749–780.
- Chatman, J., G. Lee, G. Carroll, J. R. Harrison. 2005a. The influence of social networks on cultural transmission and enculturation: An empirical investigation. Working paper, Haas School of Business, University of California, Berkeley, CA.
- Chatman, J., A. Boisnier, J. Berdahl, S. Spataro, C. Anderson. 2005b. The typical, the rare, and the outnumbered: Disentangling the effects of numerical distinctiveness and sex-stereotyped tasks on individuals’ perceptions of category salience and performance in groups. Working paper, Haas School of Business, University of California, Berkeley, CA.

- Cialdini, R. B. 1980. Full-cycle social psychology. L. Bickman, ed. *Applied Social Psychology Annual*, Vol. 1. Sage Publications, Beverly Hills, CA, 21–47.
- Cialdini, R. B. 1993. *Influence: Science and Practice*. HarperCollins, New York.
- Cialdini, R. B. 1995. A full-cycle approach to social psychology. G. G. Brannigan, M. R. Merrens, eds. *The Social Psychologists: Research Adventures*. McGraw-Hill, New York, 53–72.
- Cialdini, R. B. 2001. Systematic opportunism: An approach to the study of tactical social influence. J. P. Forgas, K. D. Williams, eds. *Social Influence: Direct and Indirect Processes*. Psychology Press, Philadelphia, PA, 25–39.
- Cialdini, R. B., J. T. Cacioppo, R. Bassett, J. A. Miller. 1978. Low-ball procedure for inducing compliance: Commitment then cost. *J. Personality Soc. Psych.* **36**(2) 463–476.
- Cialdini, R. B., R. J. Borden, A. Thorne, M. R. Walker, S. Freeman, L. R. Sloan. 1976. Basking in reflected glory: Three (football) field studies. *J. Personality Soc. Psych.* **34**(2) 366–375.
- Daft, R. L., A. Y. Lewin. 1990. Can organizational studies begin to break out of the normal science straightjacket? An editorial essay. *Organ. Sci.* **1**(1) 1–9.
- Festinger, L. 1964. *Conflict, Decision, and Dissonance*. Stanford University Press, Stanford, CA.
- Fine, G., K. Elsbach. 2000. Ethnography and experiment in social psychological theory building: Tactics for integrating qualitative field data with quantitative lab data. *J. Experiment. Soc. Psych.* **36**(1) 51–68.
- Flynn, F. J. 2003a. What have you done for me lately? Temporal changes in subjective favor evaluations. *Organ. Behavior Human Decision Processes* **9**(1) 38–50.
- Flynn, F. J. 2003b. How much should I help and how often? The effects of generosity and frequency of favor exchange on social status and productivity. *Acad. Management J.* **46**(5) 539–553.
- Flynn, F. J., B. M. Staw. 2004. Lend me your wallets: The effect of charismatic leadership on external support for an organization. *Strategic Management J.* **25**(2) 309–330.
- Freid, Y., L. H. Slowik. 2004. Enriching goal-setting theory with time: An integrated approach. *Acad. Management Rev.* **29**(3) 404–422.
- Gersick, C. 1988. Time and transition in work teams: Toward a new model of group development. *Acad. Management J.* **31**(1) 9–41.
- Gersick, C. 1989. Making time: Predictable transitions in task groups. *Acad. Management J.* **32**(2) 274–289.
- Gilovich, T., D. Kahneman, V. Medvec. 1998. Varieties of regret: A debate and partial resolution. *Psych. Rev.* **105**(3) 602–606.
- Gilovich, T., R. Vallone, A. Tversky. 1985. The hot hand in basketball: On the misperception of random sequences. *Cognitive Psych.* **17**(2) 295–314.
- Goffman, E. 1971. *Relations in Public*. Penguin, Harmondsworth, UK.
- Hambrick, D. C., T. S. Cho, M. Chen. 1996. The influence of top management team heterogeneity on firms' competitive moves. *Admin. Sci. Quart.* **41**(4) 659–684.
- Hansen, M. T. 1999. The search transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Admin. Sci. Quart.* **44**(1) 82–111.
- Harrison, J. R., G. Carroll. 1991. Keeping the faith: A model of cultural transmission in formal organizations. *Admin. Sci. Quart.* **36**(4) 552–582.
- Ilgen, D., H. Klein. 1989. Organizational behavior. *Annual Rev. Psych.* **40** 327–350.
- Jehn, K. A., E. A. Mannix. 2001. The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Acad. Management J.* **44**(2) 238–252.
- Kenrick, D. T., D. C. Funder. 1988. Profiting from controversy: Lessons from the person-situation debate. *Amer. Psychologist* **43**(1) 23–35.
- Kohn, M., C. Schooler. 1978. The reciprocal effects of the substantive complexity of work and intellectual flexibility: A longitudinal assessment. *Amer. J. Sociology* **84**(1) 24–52.
- McGrath, J. E. 1982. Dilemmatics: The study of research choices and dilemmas. J. E. McGrath, J. Martin, R. Kulka, eds. *Judgment Calls in Research*. Sage Publications, Beverly Hills, CA, 69–102.
- Mellers, B., R. Hertwig, D. Kahneman. 2001. Do frequency representations eliminate conjunction effects? An exercise in adversarial collaboration. *Psych. Sci.* **1**(4) 269–273.
- Miner, A. 1987. Idiosyncratic jobs in formal organizations. *Admin. Sci. Quart.* **32**(3) 327–351.
- Mone, M. A., W. McKinley. 1993. The uniqueness value and its consequences for organization studies. *J. Management Inquiry* **2**(2) 284–296.
- Mowday, R. T., R. I. Sutton. 1993. Organizational behavior: Linking individuals and groups to organizational contexts. J. T. Spence, J. M. Darley, D. J. Foss, eds. *Annual Review of Psychology*, Vol. 44. Annual Reviews, Palo Alto, CA, 195–229.
- Okhuysen, G. A., M. J. Waller. 2002. Focusing on midpoint transitions: An analysis of boundary conditions. *Acad. Management J.* **45**(5) 1056–1067.
- O'Reilly, C. A. 1991. Organizational behavior: Where we've been, where we're going. J. T. Spence, J. M. Darley, D. J. Foss, eds. *Annual Review of Psychology*, Vol. 42. Annual Reviews, Palo Alto, CA, 427–458.
- O'Reilly, C., J. Chatman, D. Caldwell. 1991. People and organizational culture: A profile comparison approach to assessing person-organization fit. *Acad. Management J.* **34**(3) 487–516.
- Pfeffer, J. 1983. Organizational demography. L. L. Cummings, B. M. Staw, eds. *Research in Organizational Behavior*, Vol. 4. JAI Press, Greenwich, CT.
- Pfeffer, J. 1993. Barriers to the advancement of organizational science: Paradigm development as a dependent variable. *Acad. Management Rev.* **18**(4) 599–620.
- Ridgeway, C., L. Smith-Lovin. 1999. The gender system and interaction. *Annual Rev. Sociology* **25** 191–216.
- Ross, J., B. Staw. 1986. Expo 86: An escalation prototype. *Admin. Sci. Quart.* **31**(3) 274–297.
- Ross, J., B. Staw. 1993. Organizational escalation and exit: Lessons from the Shoreham Nuclear Power Plant. *Acad. Management J.* **36**(5) 701–733.
- Salancik, G. R. 1979. Field stimulations for organizational behavior research. *Admin. Sci. Quart.* **24**(4) 638–649.
- Schneider, B. 1983. Interactional psychology and organizational behavior. B. M. Staw, L. L. Cummings, eds. *Research in Organizational Behavior*, Vol. 5. JAI Press, Greenwich, CT, 1–31.
- Simonson, I., B. M. Staw. 1992. Deescalation strategies: A comparison of techniques for reducing commitment to losing courses of action. *J. Appl. Psych.* **77**(3) 419–426.
- Singleton, R. A., Jr., B. C. Straits. 1999. *Approaches to Social Research*, 3rd ed. Oxford University Press, New York.

- Spataro, S. E. 2002. Not all differences are the same: The role of informal status in predicting reactions to demographic diversity in organizations. Working paper, Yale School of Management OB-03, Yale, New Haven, CT.
- Spataro, S. E., C. Anderson. 2004. Informal status in formal organizations: Differences in respect and prestige among coworkers. Working paper, Yale School of Management No. OB-10, Yale, New Haven, CT.
- Staw, B. 1976. Knee-deep in the big muddy. *Organ. Behavior Human Performance* **16**(1) 27–44.
- Staw, B., H. Hoang. 1995. Sunk costs in the NBA: Why draft order affects playing time and survival in professional basketball. *Admin. Sci. Quart.* **40**(3) 474–495.
- Staw, B., J. Ross. 1987. Knowing when to pull the plug. *Harvard Bus. Rev.* **65**(2) 68–76.
- Staw, B., R. Sutton. 1992. What theory is not. *Admin. Sci. Quart.* **40**(3) 371–385.
- Staw, B., S. Barsade, K. Koput. 1997. Escalation and the credit window: A longitudinal study of bank executives' recognition and write-off of problem loans. *J. Appl. Psych.* **82**(1) 130–142.
- Sutton, R. I. 1997. The virtues of closet qualitative research. *Organ. Sci.* **8**(1) 97–106.
- Teger, A. I. 1980. *Too Much Invested to Quit*. Pergamon, New York.
- Tyler, T. R., P. DeGoey. 1995. Collective restraint in social dilemmas: Procedural justice and social identification effects on support for authorities. *J. Personality Soc. Psych.* **69**(3) 482–497.
- Van Maanen, J. 1995. Fear and loathing in organization studies. *Organ. Sci.* **15**(2) 280–321.
- Waller, M., M. E. Zellmer-Bruhn, R. C. Giambatista. 2002. Watching the clock: Group pacing behavior under dynamic deadlines. *Acad. Management J.* **45**(5) 1046–1047.
- Webster, J., W. H. Starbuck. 1988. Theory building in industrial and organizational psychology. *Internat. Rev. Indust. Organ. Psych.* **3**(1) 93–138.
- Zammuto, R. F., T. Connolly. 1984. Coping with disciplinary fragmentation. *Organ. Behavior Teaching Rev.* **9**(1) 30–37.