



## Research in Organizational Change and Development

A quasi-experimental study of an action-research project: The effect of project visibility

John P Wanous, Arnon E Reichers

### Article information:

**To cite this document:** John P Wanous, Arnon E Reichers. "A quasi-experimental study of an action-research project: The effect of project visibility" *In* Research in Organizational Change and Development. Published online: 08 Mar 2015; 169-194. Permanent link to this document:

[http://dx.doi.org/10.1016/S0897-3016\(01\)13006-5](http://dx.doi.org/10.1016/S0897-3016(01)13006-5)

Downloaded on: 30 December 2015, At: 23:21 (PT)

References: this document contains references to 37 other documents.

To copy this document: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

The fulltext of this document has been downloaded 119 times since NaN\*

### Users who downloaded this article also downloaded:

Gillian Teubner, (2001), "Flattening the organizational structure: Encouraging empowerment or reinforcing control?", *Research in Organizational Change and Development*, Vol. 13 pp. 147-168

David Coghlan, Joe McDonagh, (2001), "Research and practice in it-related change: The case for clinical inquiry", *Research in Organizational Change and Development*, Vol. 13 pp. 195-211

Calum Alexander Arthur, Lew Hardy, (2014), "Transformational leadership: a quasi-experimental study", *Leadership & Organization Development Journal*, Vol. 35 Iss 1 pp. 38-53 <http://dx.doi.org/10.1108/LODJ-03-2012-0033>

Access to this document was granted through an Emerald subscription provided by emerald-srm:565441 []

### For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit [www.emeraldinsight.com/authors](http://www.emeraldinsight.com/authors) for more information.

### About Emerald [www.emeraldinsight.com](http://www.emeraldinsight.com)

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

\*Related content and download information correct at time of download.

# A QUASI-EXPERIMENTAL STUDY OF AN ACTION-RESEARCH PROJECT: THE EFFECT OF PROJECT VISIBILITY

John P. Wanous and Arnon E. Reichers

## ABSTRACT

*A three-year Action-Research organizational development (OD) project in an automotive parts manufacturing plant was designed to: (a) increase employee participation, and (b) solve specific problems. All employees were surveyed before and after interventions. The OD effort was directed at the largest of four internal business units in the Plant, called the Experimental group. The remaining three business units formed the Comparison group, resulting in a quasi-experimental research design. Elements of the OD effort to increase employee participation included; (a) collaboration in data gathering, interpretation, and action planning, (b) widespread dissemination of survey results, and (c) collaboration in four issue-specific Task Forces. Besides differences in focus, the Task Forces also differed in the degree of their "visibility" to employees. We define visibility as: (a) the number of employees exposed to the intervention, and (b) the degree to which the intervention was directly observable by employees. Task force visibility was directly related to Task Force success, as measured by data from the second survey. Detailed suggestions for increasing employee participation and the visibility of OD projects are offered. In addition, some new suggestions are also offered for the effective conduct of Town*

---

Research in Organizational Change and Development, pages 169–194.  
Copyright © 2001 by Elsevier Science Ltd.  
All rights of reproduction in any form reserved.  
ISBN: 0-7623-0827-3

*Hall meetings in order to achieve decisions that need both high quality solutions and high employee acceptance.*

## INTRODUCTION

This organizational development (OD) project was conducted in a large, unionized Midwestern automobile parts manufacturing plant. The project began when the Plant Manager wanted to augment corporate OD efforts with his own. He initiated a request-for-proposals from a local university. After a lengthy selection process, a Research Team of four faculty members conducted a three-year OD/research project using the Action-Research method. (see Chein, Cook & Harding, 1948, for an early statement of this method, and Aguinis, 1993, for an assessment.)

One theme that continued throughout the entire project was efforts by both Plant management and the Research Team to increase employee participation. Management had begun such efforts prior to this project; the Research Team's actions were complementary. For example, the Research Team began the Action-Research project by interviewing employees. This was followed by a Plant-wide survey, extensive data feedback and interpretation, and action-planning.

Four issue-specific Task Forces were formed as a result of an action-planning Town Hall meeting (Bunker & Alban, 1992, 1997), also known as a "democratic-dialog conference" (Shani & Sternberg, 1995). A second survey near the end of the third year concluded the efforts of the Research Team. The specifics of how both Management and the Research Team tried to increase participation, and to assess the success of the issue-specific Task Forces are described later.

This particular approach to organizational change has also been referred to as the "communicative orientation" by Shani and Sternberg (1995), which is one of three basic approaches to the integration of change they identified. The other two they refer to are "structuration" and "mobilization", neither of which applies to the present situation.

Further, each Task Force was assessed in terms of its "visibility" to employees, because we thought that project visibility might be directly related to its success. As we define the term, two factors determine the visibility of an OD project to employees. First, the greater the number of employees affected by an OD project, the more that effort will be visible. Second, the more the project can be directly observed by employees, the greater its visibility. Details of which specific projects had more vs. less visibility are presented later.

The reason why project visibility should increase the success of a project is because of the widespread cynicism in today's society, including the workplace

(Kanter & Mirvis, 1989). With respect to organizational change and development, two related articles reported how Cynicism About Organizational Change (CAOC) develops and affects employee attitudes and behavior (Reichers, Wanous & Austin, 1997; Wanous, Reichers & Austin, 2000). Thus, it seems logical that the credibility of any OD effort is likely to be enhanced when it is more, rather than less, visible to those who are the targets of the intervention.

Research on OD has been reviewed a number of times over the last 25 years, beginning with Friedlander and Brown (1974), and followed by Porras and Berg (1978), Nicholas (1982), Guzzo, Jette and Katzell (1985), Woodman and Wayne (1985), Blanck and Turner (1987), Neuman, Edwards and Raju (1989), Woodman (1989), Porras and Robertson (1992), Macy and Izumi (1993), Robertson, Roberts and Porras (1993); and most recently by Weick and Quinn (1999). The size of the literature reviewed depends greatly on how the domain is defined. Some reviews included laboratory studies of goal-setting, which many would consider as outside the OD domain. Some limited the review to studies done only in actual organizations, which is consistent with our view that field, not laboratory, studies are most appropriate. Most reviews categorize OD interventions and then assess their impact on a category-by-category basis.

Finally, some of the reviews include an assessment of the study's research design, where the results are separated into groups that range from strong to weak designs. Although it initially appeared that high research design rigor led to weaker results (Terpstra, 1981), subsequent assessments have failed to support this contention (Bullock & Svyantek, 1983, 1985; Woodman & Wayne, 1985).

## CONTRIBUTIONS OF THIS STUDY

This study makes a number of specific contributions that can be grouped into two categories. The first category concerns the *effective practice of OD*. Within this category, we believe that the concept of project visibility may be an important factor determining the ultimate success of OD efforts. As such, it should be considered when initially designing a project, and when interpreting the results of a project.

A second practice-related contribution concerns how to conduct a Town Hall meeting in such a way that decisions reached there achieve the highest "quality" and "acceptance" possible. Maier (1963) and later Vroom (Vroom & Yetton, 1973; Vroom & Jago, 1988) have argued that quality and acceptance are the two basic criteria for assessing the overall effectiveness of decisions.

A third practice-related contribution is to address the set of meeting-specific issues facing any facilitator of a Town Hall meeting. Bunker and Alban (1992, 1997) present a set of dilemmas facing the effective practice of this intervention

method. We propose additional suggestions for ways to cope with the dilemmas they have identified.

The second category of potential contributions concerns the *type of research data* presented here. One of the enduring criticisms of OD in general has been the failure to produce a large set of methodologically sound field experiments. OD practitioners are often criticized for being long on advice, yet short on rigorous data, an important problem that continues to exist (Weick & Quinn, 1999). The present study is an exception, because it is a quasi-experimental field study.

A second research-data strength of the research data is that the study involved a large organization with over 1,000 employees providing survey data. A third research-data strength is that it was longitudinal – spanning three years – with two survey data collection points.

A fourth research-data strength is the location for the study, which was an older manufacturing plant with a slowly shrinking workforce, whose hourly workers are unionized. In this sense, this project is a demonstration that OD can be conducted successfully under somewhat adversarial conditions.

Field experiments, whether true experiments or quasi-experiments as is the case here, are infrequently found in the OD literature. The overwhelming majority of field data on OD has primarily come from case studies, although more recently multi-organization studies have been conducted (Macy & Izumi, 1993). That said, experiments within an organization (which, importantly, control for between-organization differences) continue to be quite rare. In fact, of all the remedies for the general lack of rigor in OD field data, Weick and Quinn (1999) did not even mention experiments within organizations. This might be indirect testimony as to the difficulties encountered in conducting such OD experiments.

## LOCATION AND OVERVIEW

The Plant is a subsidiary of a large auto manufacturer devoted to producing component parts. Although roughly 80% of its business was with the corporate parent, it sold the rest to competitors of the parent corporation. There were 2,122 employees actively employed when the project started, and 1,958 when it ended three years later.

The Plant Manager and the President of the University agreed that a thorough assessment by University faculty might be a good way to understand the Plant's culture, so that labor-management relations could be improved. The corporate parent guaranteed funding for a maximum of three years. Funding was done on a year-by-year basis, however, with a formal review at the completion of each year. The review was jointly conducted by top managers from the Plant,



and faculty from the University. (These faculty were not directly involved in the project itself).

After a lengthy multi-stage screening process conducted by both University and Plant representatives, four faculty members were chosen to conduct the project. Each faculty member selected one doctoral student as a partner. The four faculty were part of this project for all three years, but there was turnover among the doctoral student partners due to graduation.

The Plant Manager decided that the project would take place in the largest of four internal business units, which was responsible for producing the “core” product. This business unit thus became the Experimental group. Each of the four units produced a different product, had separate budgetary accountability, had its own Manager, and was located in a different area of the plant. Because of the Plant Manager’s decision, this OD effort became a quasi-experiment.

During the first year a lengthy diagnostic survey was developed and administered to *all* employees in the Plant, not just the business unit that was the Experimental group. This survey included standard research-oriented scales as well as items representing issues of local concern that had been obtained from interviews conducted prior to the survey. Survey results were shared widely, beginning with the leadership of the plant (both management and union leaders). This was followed by a similar process for the Experimental group, and by a weekly Newsletter that was made available for *all* employees during a ten week period after the feedback meetings had been completed.

At the end of Year One, four issue-specific Task Forces were formed in the Experimental group and operated throughout Year Two and most of Year Three. During the middle of Year Three a second plant-wide survey was conducted to re-assess the entire organization. The second survey was also used to measure the results of efforts to increase participation in general, and especially the impact of the four Task Forces in the Experimental group. Feedback was provided to both Union and Management leaders, and plans for continuing OD efforts by Plant managers beyond Year Three were formulated and approved. However, the Research Team left the Plant at the end of Year Three, according to the research agreement with the corporate parent who provided the funding. (This was a formally signed agreement between the University’s president and the CEO of the corporate parent.)

Research Team interventions were limited to the Experimental unit with two exceptions: (a) the first feedback meeting with Management and Union leaders, and (b) ten weekly Newsletters that were made available to all employees. Management’s own initiatives towards greater employee participation were, however, directed at the entire organization and pre-dated the entry of the Research Team.

There were six Management initiatives to increase employee participation and cooperation with the Union. First, the Executive Dining Room was closed to encourage all levels of Management to eat in the Employee Cafeteria. Second, Management began to dress more casually than in past years, so as to look more like the rest of the employees. Third, after-hours workshops were available for stress-coping techniques. Fourth, there was formal training in quality management that included teaching employees to be responsible for production quality at the time of assembly. Fifth, each month one of the four business units presented their own efforts at increasing employee participation, cooperation, and production quality. The entire business unit attended these meetings. A member of Management and a Union member would jointly present the results, as a symbol of efforts to increase cooperation. Thus, each business unit was responsible for conducting a quality-oriented meeting every three months. Sixth, the annual roll-out of new car models was traditionally conducted on the huge lawn fronting the Plant, and was limited to just the showing of new cars. In recent years, however, each business unit had its own display of quality and participation initiatives achieved during that year. Thus, both employees and visitors could view and discuss these efforts in the various business unit tents that were set up on the front lawn.

### *Employee Participation in the OD Effort*

Employees of the Plant were involved in the Action-Research OD process in varying degrees throughout the three years. The different forms of participation included: (1) providing input during initial interviews that was incorporated into the first survey, (2) having the opportunity to respond to two surveys, (3) providing interpretations of the results from the first survey, (4) setting priorities for action that were based on these interpretations, (5) nominating themselves, or others, to serve on a Task Force, and (6) serving on a Task Force for up to 18 months.

In addition to the six forms of participation listed above, the Research Team provided ten weekly Newsletters that summarized results from the first survey, as well as on-going activities in the Experimental group. These were made available to all employees of the Plant, not just those in the Experimental group. Details of the six forms of participation in the Experimental group are discussed below.

#### *1. Providing Input via Initial Interviews*

After initial entry into this organization, open-ended interviews lasting one hour were conducted with 84 employees representing different levels, functions, and shifts in the Plant. Employees were interviewed in small groups of 2–3 by two

members of the Research Team. Although the interviews were open-ended, a list of standard questions was used so that the results from different interviews would be comparable. Notes were taken, typed, and then analyzed by two members of the Research Team working independently. This process resulted in a number of survey items that reflected local issues and concerns expressed during the interviews.

## *2. Responding to Two Surveys*

All employees were invited to participate in the completion of two surveys. Details of how these data were collected are in the Methods section. The surveys were quite extensive, and they provided the opportunity for individual employees to have some “voice”.

## *3. Providing Interpretations of the Data*

The first group of employees ( $N = 24$ ) to see and discuss the survey results included an equal number of top leaders from both Management and the Union. Two half-day meetings were held off-site for presentation and discussion of survey results. Descriptive statistics were presented and discussed on a topic-by-topic basis, e.g. areas of job satisfaction or dissatisfaction, levels of perceived vs. desired participation, and so on. Each topic was presented by a faculty member and then discussed in small groups (equally balanced between management and union leaders sitting at round tables in the same room) before going on to the next topic. Notes of the discussion and interpretation of the data were taken by Research Team members who were sitting at the tables.

The primary purpose of the first half-day feedback meeting was to inform organizational leaders and obtain their interpretations of the data. The purpose of the second half-day was to continue discussion, specifically focusing on which plant-wide problems were believed to be highest priority.

## *4. Setting Priorities*

Because the Experimental group was selected for intervention, two additional half-day meetings were held for fifty members of that particular business unit. This was a Town Hall type of meeting, because of its large-scale, representative and democratic nature. The Management of the Experimental group and its Union leaders agreed on the criteria used for selecting those employees who would attend.

During the first half-day session, the Research Team presented survey results that had been separately calculated for this particular business unit. Results were discussed in small groups, as had been done previously with the Union and Management leaders. In addition, the employees in this Experimental unit



also generated specific topics for action. Results of the small group discussions were collected by the Research Team and presented to all those in attendance.

The second half-day session was focused on obtaining acceptance of a small set of high priority problems from the viewpoint of this particular business unit. When a final list of possible areas for change was agreed to in small group discussions, each topic was listed on a large poster-board. Each participant was asked to make two decisions: (1) rate the importance of the problem, and (2) indicate their own willingness to work to improve the problem. These two criteria are based on the early work of Maier (1963), who identified both "quality" and "acceptance" as the two most critical elements in making effective decisions. Subsequently, Vroom incorporated both into his model of leadership and decision-making (Vroom & Yetton, 1973; Vroom & Jago, 1988).

Achieving both high quality and high acceptance together was done as follows. Each employee was given eight poker chips: four red (for project importance) and four blue (for willingness to work). These chips could be allocated in any way the individual saw fit. Employees were given about 15 minutes to walk around the large meeting room and deposit the chips in the two paper bags beneath each poster. One paper bag was labeled "importance of this issue" and the other "willing to work on this issue". The researchers summarized the results by counting the chips in the presence of the employees.

Only those topics that received the greatest number of votes both as high priorities and as high endorsements of personal willingness to work on them were selected. The topics emerging from this procedure were: (1) improving the physical working conditions, (2) increasing trust and credibility between management and hourly employees, (3) instituting a preventive maintenance program, and (4) finding a way to deal with the tension created by the trade-off between production quality and quantity. To our knowledge, this is the first time such an approach has been used to achieve both decision quality and acceptance simultaneously.

##### *5. Nominating Task Force Members*

Each Experimental group member who attended the Town Hall meeting was asked to self-nominate, if so inclined, and/or nominate others for the Task Forces. Researchers collected the names, and then met with both Management and Union leaders of the Experimental group to finalize the composition of each task force. Two members of the Research Team (a faculty member and that person's doctoral student partner) also became members of each Task Force.

6. *Serving on Task Forces*

Research Team task force members initiated the first meeting, served as interim chairs until the members felt sufficiently comfortable to select their own chair, and attended all meetings in the role of secretary. In some cases there was a rotating chair. Task Forces met weekly for the first few months in order to plan specific actions. After initiating these action-plans, the task forces met less often (every 3–4 weeks) in order to monitor progress.

After about 18 months the Task Forces were disbanded, largely because their work had been completed. That is, the Physical Environment, Trust and Credibility, and Preventive Maintenance task forces each developed a specific pilot program that had been completed. The Quality vs. Quantity Task Force had meetings, but did not develop a specific pilot program as did the other three task forces. Its meetings ended when member enthusiasm waned.

*Differences in Task Force Visibility*

As mentioned earlier, two factors determine the visibility of an OD project to employees: (a) the number of employees affected by an OD project, and (b) the observability of the action taken. The first factor is obvious. The second factor refers to whether people are physically able to see results for themselves. Simply dichotomizing each factor as high vs. low, results in a 2 × 2 matrix of possibilities. As will be seen below, each of the four issue-specific Task Forces represents a different type of visibility.

Based on our definition of visibility, the most visible of the four Task Forces was concerned with the Physical Environment, because it met both criteria. This

	<u>Number of Employees Affected</u>	
	<u>Smaller</u>	<u>Larger</u>
<u>Observability of Actions</u>		
<u>Not Observable</u>	Lowest	Medium
<u>Observable</u>	Medium	Highest

Fig 1. Visibility of OD Projects.

Downloaded by UNIVERSITAS ISLAM NEGERI SUNAN KALIJAGA At 23:21 30 December 2015 (PT)

Task Force replaced all of the old trash cans in the Experimental group's working area with a much greater number of new and brightly painted (yellow) ones. Further, these new cans all had plastic liners and were emptied on a regular basis, in contrast to the previous trash cans which were not lined, nor regularly emptied.

Although this may seem like a trivial change, the work area was quite messy prior to this change. The (unstated) goal of this Task Force was to try to do for this plant what McDonald's Corp. has so successfully accomplished with its customers. That is, encourage people to pick up after themselves by having strong "signals" in the physical environment to this effect. Numerous bright new trash cans was supposed to be this type of signal.

The least visible of the four was concerned with Quality vs. Quantity. Members of this particular Task Force did not develop a comprehensive, action-oriented proposal. The discussion of the quality vs. quantity problem was limited to the Task Force members themselves. As a result, only these employees were directly involved, and nothing tangible was produced that could be observed by others.

The remaining two Task Forces were in the mid-range of visibility. The Trust and Credibility task force involved a number of employees in newly formed small groups that met weekly to share information and discuss relevant issues. Each new group that was formed received training in how to conduct meetings, and how to be an effective group member if not in a leadership position. For example, each member received a one page list of specific behavioral guidelines that specified both leadership and followership actions that would be considered effective, and those that should be avoided.

A total of nine such discussion groups (145–150 people) were formed over six months. The Trust and Credibility Task Force focused on opening up channels of communication, but did not produce an observable result that was comparable to the installation of new trash cans. Those in each group knew what had been discussed, but typically did not know what went on in other discussion groups. Those employees not members of the newly formed discussion groups (about half of the Experimental group) depended on those who were in them for information.

The Preventive Maintenance (PM) Task Force initiated an intervention that was clearly observable in the physical sense of the term. Large poster-board charts were developed that listed specific goals for increasing the amount of PM on ten identical machines in one area of the Experimental group's section of the plant.

These poster-board charts embody four commonly accepted principles from the study of organizational behavior. First, research on motivation theory has shown that goals which are specific and challenging are consistently superior

to “do your best” goals (Locke & Latham, 1990). Second, the charts also provided feedback to those responsible for doing the various aspects of PM. This, too, is an important factor in the success of goal setting efforts (Locke & Latham, 1990). Third, putting the charts near the machines made them *public* information, not just private feedback for those directly involved in the PM effort. Because of this, it is likely that the probability of social loafing was reduced (Latane, Williams & Harkins, 1979). Fourth, the goals were comprehensive, i.e. they concerned all groups involved in PM: machine operators, maintenance personnel, parts personnel, and the cleaning crew. The comprehensive nature of the goals was important because all aspects of the PM effort had to be achieved in order for it to be successful. This last principle stems from many years of work on the study of organizations as interconnected, multi-layered systems (e.g. Katz & Kahn, 1966, 1978).

Despite the clear visibility of these charts next to each machine, the PM intervention involved about one-fourth of the machines in this unit. Further, the ten machines with PM charts were all located together on the periphery of the Experimental group’s space in the plant. This meant that other employees of this unit were less likely to walk by the charts on a daily basis.

The second factor in our definition of project visibility, its physical observability, has not been previously discussed in the OD literature. This may be due to the fact that the Action-Research method is primarily concerned with the *process* of OD rather its specific content/actions. It is expected that project visibility will be directly related to the relative success among the four Task Forces. This is because the assessment of Task Force effectiveness is based on data from the second survey, which compares the Experimental and Comparison groups. Project visibility should increase the number of employees in the Experimental group who report on their working experiences. The more Experimental group employees are directly involved in a Task Force project, or the more who can actually see changes stemming from a Task Force effort, the greater the difference between the two groups as revealed on the second survey.

## METHOD

### *Survey Procedures*

Pre- and post-intervention survey data were collected on site during the last hour of both work shifts. Employees were paid for this hour, whether they chose to participate or not, but were not allowed to leave early. There was at least one researcher present for every thirty employees, for easy survey distribution and for answering questions quickly.

Survey response rates were calculated separately for the hourly vs. salaried employees. For the hourly employees, 1164 of 1773 responded to the first survey (65.7%), and 870 of 1648 responded to the second (52.8%). For the salaried employees, 241 of 349 responded to the first survey (69.1%) and 162 of 310 responded to the second (52.3%). Although the response rates decreased at the second survey for both groups of employees, those who responded answered a higher percentage of survey items compared to the first one. The result is that the sample sizes are about equal for both surveys. (See Table 1 and the Results section for the outcome of analyses conducted to detect possible bias in the data.)

It should be noted that the illiteracy rate was estimated by both Management and Union officials as 10%–20%. Further, there was an average 8% daily absenteeism among the hourly employees (salaried absence was not recorded, but was believed to be 2% or less). Both of these factors undoubtedly depressed the response rates for the hourly group of employees, as compared to the salaried group. When the differences in literacy levels and absenteeism are both taken into account, the apparent response rate difference between salaried vs. hourly employees disappears, in our judgment.

The demographic characteristics of this sample are: 80% male, 80% white, 77% married, and average tenure at the Plant is 19 years. These characteristics are quite typical for those employed in the other plants of this corporation, as well as the American automotive industry.

### *Measurement of Variables*

The two surveys had a number of items and scales in common, but they were not identical. In particular, the measures used to assess the effectiveness of the four issue-specific Task Forces were included only on the second one. This is because the first survey was used as a general diagnostic tool. The specific issues addressed by the four Task Forces were identified as a result of discussions about the data collected on first survey. This is typical of Action-Research, but it also means that the assessment of Task Force success was based on after-only measures. The assessment of the level of overall participation in decision-making was measured on *both* surveys, however, so that the Experimental and Comparison groups could be compared before *and* after the Task Force interventions.

### *Measures Used to Assess the Comparability of the Experimental and Comparison Groups.*

These measures all came from the first survey. There are two types of measures used to assess comparability between the two groups: (a) seven employee



attitude and behavior measures, and (b) eight demographic factors. First, Overall Job Satisfaction was measured with a five point, single-item measure. The desirability of using a single-item measure for this construct was forcefully argued some time ago by Scarpello and Campbell (1983), and confirmed in a review/meta-analysis by Wanous, Reichers and Hudy (1997). Second, the number of Labor Grievances filed in the past two years was measured by a single, self-report item.

Third, Committeeperson Effectiveness refers to one's work-unit representative to the Union and was measured with an eight item scale ( $\alpha = 0.85$  for T1 and  $0.87$  for T2). Items include such factors as; keeping people regularly informed, keeping commitments, and dealing with conflict by finding someone to blame (reverse scored). Fourth, Management Effectiveness refers to the top management of the Plant, and was measured with a seven item scale ( $\alpha = 0.83$  at T1 and  $0.84$  at T2). Items include: believing top management, asking hourly workers for advice, respecting the people who work in the plant, and so on.

Fifth, Co-Worker Effectiveness refers to those one actually worked with, and was measured with a six item scale ( $\alpha = 0.80$  at T1 and  $0.78$  at T2). Items include: co-workers are trying as hard as they can, group members are contributing less than expected (reverse scored), given their abilities they are doing the best they can, and so on. Sixth, the Amount of Participation in Decision-Making (PDM) was measured with a four item scale ( $\alpha = 0.77$  at T1 and  $0.83$  at T2). The four PDM items were: setting performance or production goals, diagnosing and solving production problems, diagnosing and solving quality problems, and determining work procedures. Seventh, Desired PDM used the same four items as for PDM with minor wording changes reflecting the different frame-of-reference ( $\alpha = 0.78$  at T1 and  $0.85$  at T2).

The second group of factors used to compare the Experimental and Comparison groups included eight demographic variables: age, tenure, sex, years of education, percentage married, percentage white, percentage paid on a piece rate, and the percentage paid by salary. (The percentage paid on an hourly basis is not reported, because it can be derived from the result of the other two payment methods.) All demographic factors are single-item, self-report measures.

*Measures from the Second Survey Used to Assess OD  
and Task Force Effectiveness.*

There are five groups of these measures. First, the overall effectiveness of the Research Team's OD effort was assessed by three single-item measures: (a) the

level of awareness of the OD effort (yes = 1 and no = 2), and (b) the belief that the OD effort was positive (5 point scale), and (c) the belief that one was better informed as a result of the OD effort (5 point, agree-disagree scale).

The second group of measures concerned the Physical Environment Task Force. The first measure was a single-item asking if there were sufficient trash cans in the work area (yes = 1 and no = 2). Second, the effectiveness of the trash cans was measured on a three item scale ( $\alpha = 0.73$ ) that asked specifically about the condition of the cans, the frequency of them being lined with plastic, and the extent to which they were regularly emptied. Third, satisfaction with the physical working conditions was measured with a single-item question (5 point scale).

The third group of measures concerned the Trust and Credibility Task Force. Four single-item measures were obtained: (a) the extent to which one's work group met regularly (yes = 1 and no = 2), (b) whether the respondent attended those meetings (yes = 1 and no = 2), (c) the extent to which the respondent believed top management (5 point scale), and (d) the extent to which one's immediate supervisor was believed (5 point, agree-disagree scale).

The fourth group of items referred to the Preventive Maintenance (PM) Task Force. Three single-item measures (all 5 point, agree-disagree scales) were obtained concerning: (a) the extent to which the respondent checked his/her own machine, (b) the belief that there was greater emphasis on PM now as compared to last year, and (c) the degree to which the respondent thought that the amount of PM was "about right". In addition, a three item scale ( $\alpha = 0.82$ ) measured the extent to which three groups (top management, maintenance personnel, and an outside supplier of cleaning services) were perceived as helping PM efforts.

The fifth group of items referred to the Quality vs. Quantity Task Force. Two single-item measures (5 point, agree-disagree scales) concerned: (a) the extent to which one's own work group emphasized quantity over quality, and (b) the extent to which one's supervisor emphasized quantity over quality. In addition, a four item scale ( $\alpha = 0.81$ ) measured the effectiveness of efforts to improve quality (5 point, agree-disagree scale). Items for this scale include: (a) effectiveness of departmental quality meetings, (b) effectiveness of the quality tour, (c) effectiveness of work area meetings, and (d) whether one's own work group did a good job of solving quality problems.

### *Research Design and Data Analysis*

The Research Team worked with this organization for the entire length of the 36 month contract between the corporate parent and the host university. At Month five the first survey was conducted. At Month 10 the data were fed back to the

Management and Union leaders of the Plant at the offsite meeting. At Month 13 a Town Hall meeting was held with the Experimental group and at Month 14 the four issue-specific Task Forces were formed. At Month 26 the second survey was conducted. The last ten months were spent analyzing the data, reporting the results, continuing to facilitate the Task Forces, and instituting a plan for the exit of the Research Team. Between Months 32 and 36 the four Task Forces were disbanded, having completed their respective projects successfully, or having lost motivation (Quality vs. Quantity Task Force).

This study is a quasi-experiment somewhat similar to the “post-test only with non-equivalent groups” design (Cook, Campbell & Peracchio, 1990, pp. 521–523), but with an important exception that will be discussed below. Researchers have three options for dealing with the lack of pre-test measures on the criteria of interest. First, a “retrospective pre-test” can be used in which respondents are asked to remember the levels of the criterion variables that existed prior to the treatment. This has considerable flaws, however (Cook et al., 1990).

As a second option, the groups can be matched on factors likely to be correlated with the post-test measures of interest. However, this was not really feasible because Management had already selected the business unit that would receive special treatment from the Research Team.

Finally, the third option is to use “proxy pre-test measures”, which is the option that was used here. These are measures that might be related to the criteria of interest, but which are available only for the pre-test period. In the present case, however, it is important to note that the present study has a stronger variation of this option because we have data from two surveys (before and after the change). Thus, we were able to make three assessments, rather than being limited only to a comparison of groups prior to the intervention, as described below.

The procedures for comparing the Experimental vs. the Comparison groups are as follows. The Demographic factors are analyzed using t-tests for mean differences at T1. However, a more complex approach for the job attitude and behavior measures is used, because they might affect (or be affected by) the OD interventions, whether from the Research Team or from Management. In contrast, it seemed highly unlikely that the demographic factors could affect or be affected by interventions. The purpose in comparing demographic factors is to establish the general level of comparability between the Experimental and Comparison groups at the beginning of this research.

Two-way ANOVAs are used to assess possible differences in job attitudes and behavior between: (a) the Experimental and Comparison groups at Time 1 (T1) – an a priori contrast called the Group Effect, (b) both groups taken together

at T1 vs. both groups taken together at Time 2 (T2) – called the Time Effect, and (c) the Interaction Effect between Group and Time. If the two groups are comparable, then there should be no significant differences between them at T1, i.e., no Group Effect. If the efforts by Management and the Research Team to increase overall employee participation were both successful, then there should be a significant Time Effect for the amount of Participation in Decision-Making (PDM). Finally, a Group  $\times$  Time Interaction Effect for PDM would indicate that the increase for the Experimental group was significantly greater than that for the Comparison group.

## RESULTS

Table 1 shows a comparison of the seven job attitude and behavior factors that were assessed with data from both the T1 and T2 surveys. None of the Group Effects were significant, indicating that the two groups are comparable on these factors at T1. This supports the integrity of the quasi-experimental design.

There were two significant Time Effects: (a) an increase in PDM ( $p < 0.05$ ), and (b) an increase in Management Effectiveness ( $p < 0.001$ ). The two significant differences can be converted into effect sizes,  $d$ , by comparing the mean differences across time in relationship to the pooled standard deviation (Hunter & Schmidt, 1990, p. 271). When this is done,  $d = 0.15$  for the increase in PDM, and  $d = 0.36$  for the increase in Management Effectiveness.

Finally, none of the Group  $\times$  Time Interaction Effects were significant. This pattern of findings indicates that Task Force efforts to increase general employee participation did not add significantly to those of Management. However, it is impossible to apportion the gain between Management and the Research Team, as will be taken up in the Discussion.

Table 2 shows comparisons between the Experimental and Comparison groups on eight demographic factors. Those in the Experimental group were significantly older (by an average of 3 years), and there were fewer piece-rate paid hourly employees in the Experimental group (42% vs. 58%). However, there were no differences in terms of sex, education, percent married, percent white employees, the number of years with this employer (tenure), or the percentage of salary-paid personnel. Thus, the Experimental and Comparison groups are much more similar than they are different.

Table 3 shows comparisons between the Experimental and Comparison groups that were made for the items and scales written specifically for each of the four issue-specific Task Forces, as well as those assessing the overall OD efforts of the Research Team. Of the three items used to assess the overall OD effort by the Research Team, two show significant differences in the direction

**Table 1.** Comparisons of Experimental and Comparison Groups: Job Behavior and Attitudes.

Variable	Time 1				Time 2				Statistical Significance Groups at T1
	Experimental M	Experimental SD	Comparison M	Comparison SD	Experimental M	Experimental SD	Comparison M	Comparison SD	
Job Satisfaction	3.66	1.03	3.52	0.89	3.67	1.06	3.58	0.93	n.s.
Labor Grievances	0.34	1.18	0.63	6.48	0.81	2.30	0.56	1.52	n.s.
Committee Person Effectiveness	2.69	1.11	2.69	1.00	2.68	0.96	2.58	0.88	n.s.
Management Effectiveness	2.56	0.70	2.53	0.78	2.89	0.75	2.74	0.75	n.s.
Co-Worker Effectiveness	3.51	0.69	3.36	0.65	3.39	0.67	3.44	0.67	n.s.
Participation in Decisions	2.96	1.05	2.94	0.97	3.20	1.31	3.04	1.16	n.s.
Desired Participation	3.87	0.80	3.83	0.80	3.93	1.07	3.86	0.91	n.s.



**Table 2.** Comparisons of Experimental and Comparison Groups<sup>1</sup>: Demographic Factors.

Variable	M	SD	M	SD	Significance
Age	47.00	8.64	43.94	7.48	$t = 4.13, p < 0.01$
Sex	1.70	0.46	1.73	0.44	$t = -0.92, n.s.$
Education	1.00	0.00	1.00	0.04	$t = -1.00, n.s.$
% Married	69	4.64	71	4.54	$t = -0.53, n.s.$
% White	78	4.16	75	4.33	$t = 0.89, n.s.$
Tenure (years)	20.04	8.10	20.00	6.96	$t = 0.08, n.s.$
% Piece Rate	42	4.95	58	4.94	$t = -3.99, p < 0.01$
% Salaried	10.5	3.08	9.6	2.80	$t = 1.21, n.s.$

<sup>1</sup>Sample sizes for the experimental group range from 126 to 221. For the comparison group they are 293-494.

expected. That is, those in the Experimental group were more aware of the Research Team efforts, because 80% of the Experimental group respondents answered “yes” to this question vs. 48% in the Comparison group (yes = 1 and no = 2). In addition, they rated those efforts more positively than those in the Comparison group. However, there was no difference in the third factor, i.e. feeling better informed. When each of the three *t*-values is converted into an effect size ( $d = 2 \times t/N$ ) and averaged, the result is an overall effect size of  $d = 0.34$ . (See Hunter & Schmidt, 1990, pp. 272–273).

The Physical Environment Task Force was assessed with two single-item measures and a three-item scale. Of those in the Experimental Group, 73% said that there were sufficient trash cans vs. 59% in the Comparison group. Similar positive effects were found for the other two items. All three comparisons are significantly different, and the average effect size is 0.38. The Trust and Credibility Task Force was assessed with four single-item measures. Three of these four comparisons are significantly different. For example, 69% of those in the Experimental group said that their group met regularly vs. 58% in the Comparison group. Similarly positive results were found for the other items and scales. The average effect size for this set of measures is 0.36.

The Preventive Maintenance Task Force was assessed with three single-item measures and a three-item scale. Three of these four comparisons are significantly different, and the average effect size for this set of items and scales is 0.17.

The Quality vs. Quantity Task Force was assessed with two single-item measures and a four-item scale. There are no significant differences, and the average effect size is 0.07. Thus, the a priori ranking of the four Task Forces by their level of visibility parallels the results of their respective degrees of success as measured by data from the second survey.

**Table 3.** Comparison of Groups<sup>1</sup> After the Intervention.

Type of Comparison	Experimental		Comparison		Significance
	M	SD	M	SD	
<i>I. Overall OD Effort</i>					
Awareness of effort	1.20	0.40	1.52	0.50	$t = -8.94, p < 0.01$
Believe effort was positive	3.30	1.13	3.01	0.92	$t = 2.67, p < 0.01$
Feel better informed	3.19	1.09	3.20	1.00	$t = -0.10, n.s.$
<i>II. Physical Environment Task Force</i>					
Sufficient trash cans	1.27	0.47	1.41	0.51	$t = -3.73, p < 0.01$
Trash can effectiveness	8.29	3.04	6.70	2.61	$t = 7.02, p < 0.01$
Satisfaction with working conditions	3.28	1.01	2.99	1.11	$t = 3.54, p < 0.01$
<i>III. Trust and Credibility Task Force</i>					
My group meets regularly	1.31	0.46	1.42	0.49	$t = -3.00, p < 0.01$
I attend group meetings	1.32	0.47	1.39	0.49	$t = -1.79, p = 0.07$
I believe upper mgmt.	2.68	1.11	2.47	0.99	$t = 2.60, p < 0.01$
I believe my supervisor	3.13	1.10	3.13	1.13	$t = 0.05, n.s.$
<i>IV. Preventive Maintenance Task Force</i>					
I check my own machine	4.97	2.34	4.31	1.92	$t = 3.85, p < 0.01$
More PM now than last year	2.70	1.39	2.46	1.28	$t = 2.15, p < 0.05$
Amount of PM is about right	2.47	1.64	2.21	1.20	$t = 2.24, p < 0.05$
Others help with PM	6.90	2.79	6.83	2.98	$t = 0.28, n.s.$
<i>V. Quality vs. Quantity Task Force</i>					
My Work Group Provides Quantity Rather Than Quality	2.71	1.18	2.53	1.21	$t = 1.53, n.s.$
My Supervisor Prefers Quantity to Quality	2.64	1.17	2.64	1.21	$t = 0.02, n.s.$
Effectiveness of Efforts to Improve Quality	13.53	2.96	13.23	3.40	$t = 0.99, n.s.$

<sup>1</sup>Sample sizes for the experimental group vary between 186 and 296. For the comparison group they range from 155–374.

## DISCUSSION

A quasi-experimental study of a three-year Action Research OD effort was made possible by Management’s decision to direct most of the OD effort into one of four internal business units. An assessment of the comparability of the Experimental and Comparison groups at the beginning of the OD process was reassuring. This is because only two out of fifteen factors examined in Tables

1 and 2 taken together were found to be significantly different, and both of these were demographic factors. It is more difficult to argue that demographic factors might confound the results than the job attitude and behavior factors which were also examined. None of the eight job attitude and behavior factors were significantly different at the beginning of this OD project.

Given the similarity between Experimental and Comparison groups in terms of job attitudes, job behavior, and demographic factors, we feel that the two groups are sufficiently similar to insure the integrity of the quasi-experimental design. That is, the comparisons between Experimental and Comparison groups are unlikely to be confounded, even though the design is quasi-experimental.

Measures of Participation in Decision-Making (PDM) and Management Effectiveness significantly increased in *both* the Experimental and Comparison groups over the 21 months that intervened between the two surveys. This was not surprising, because the focus of many changes in the Plant was to increase employee participation. However, it was expected that the increase for the Experimental group would have been greater than that for the Comparison group, resulting in a significant Group  $\times$  Time Interaction Effect. This is because the Experimental group received more attention than the rest of the Plant, i.e. a Town Hall meeting and four issue-specific Task Forces. However, this Group  $\times$  Time Interaction Effect did not occur.

The most likely explanation for the lack of this interaction effect is the two Plant-wide OD efforts that were initiated by the Research Team. First, the entire Plant was surveyed twice over the three-year period. Clearly, this is a form of "giving voice" to employees participating in the surveys, and at least the *opportunity* for voice to those who decided not to participate. Second, the wide distribution of the ten weekly Newsletters throughout the Plant further diminished the differences between Experimental and Comparison groups, by providing a great deal of specific information for everyone. Because these two actions were done Plant-wide, their combined effect is to diminish differences in employee participation between the Experimental and Comparison groups. This decision is an excellent illustration of the tension created by the "duality" of purposes in OD, as articulated by Woodman (1989). That is, OD is on the one hand a "field of social action", yet on the other it is a "field of scientific inquiry".

The Research Team members felt strongly that it was important to survey the entire Plant, and to share the results openly. To do otherwise would have compromised one of the basic principles of Action Research, i.e. high involvement of the client organization as a collaborator with the researchers. The fact that these actions might decrease the differences between the Experimental and Comparison groups was considered secondary to the

fundamental principle of encouraging employee involvement in Action-Research. Because the Research Team's two surveys and ten Newsletters were confounded with efforts by Management to increase participation, there is no way to separate their effects.

The results from second survey were used to assess the overall OD effort, and the effects of the four issue-specific Task Force interventions. The overall OD effort was viewed as significantly more positive on two of the three indicators, i.e. being aware of the effort and believing that it was beneficial. This was expected, because fifty members of this group attended a Town Hall meeting, and the four Task Forces operated in various parts of this business unit for about 18 months afterwards. However, there was no difference on the third factor considered, i.e. feeling better informed as a result of the OD efforts.

This non-significant difference in "feeling better informed" is probably because the ten Newsletters were distributed throughout the entire Plant. Because the Newsletters were filled with information from the first survey, it is not surprising that the two groups reported almost identical levels of feeling better informed. The overall effect size based on all three survey items was earlier reported as  $d = 0.34$ . However, if the "feeling better informed" item is deleted, because of the contaminating effect from the Newsletter distribution throughout the Plant, the effect size for the first two items taken together is  $d = 0.51$ . We think that this latter effect size is more representative of the unique effect of the Research Team on the Experimental group, because the contaminated item is removed.

The effect sizes (based on t-tests of the differences between the two groups) of the four Task Force interventions were estimated as 0.38 for the Physical Environment, 0.36 for Trust and Credibility, 0.17 for Preventive Maintenance, and 0.07 for Quality vs. Quantity. The rank order of these four effect sizes from largest to smallest effect size directly matches our assessment of task force visibility. This *a priori* assessment was made during the course of the intervention, prior to the second survey. Thus, it appears that OD project visibility is an important factor that affects its success. These results are, thus, consistent with related research concerning the effects of cynicism in the workplace (Kanter & Mirvis, 1989; Reichers, Wanous & Austin, 1997; Wanous, Reichers & Austin, 2000).

Obviously, further research needs to be conducted, because to our knowledge this is the first assessment of project visibility. For example, there is a difference between the effect sizes for the two mid-range visibility Task Forces: PM (0.17) vs. Trust & Credibility (0.36). It might be possible that the direct involvement of employees in the groups that were formed to deal with trust issues is more potent than the rather *indirect* involvement associated with PM

poster boards. Further, it could also be due to having a somewhat greater number of Experimental Group employees directly involved in the Trust and Credibility discussion groups (about 150) compared to those involved in the PM effort (about 25). Whatever the explanation is for the differences between the two mid-range visibility Task Forces, the most vs. least visible Task forces were the two most extreme effect sizes found here.

There were two types of assessments that were not possible, however. First, there was no separate assessment of the effectiveness of the Town Hall meeting, per se. This meeting was held after the first survey, and directly led to the formation of four Task Forces. It was the Task Forces, however, that were assessed with survey data. Perhaps its effectiveness is best judged in light of the Task Forces that resulted, because that was the primary purpose of the meeting.

The second assessment that was not possible would have included data other than those obtained from a survey. One might suppose that objective measures of work area cleanliness for the Physical Environment Task Force, or a measure of machine downtime for the Preventive Maintenance Task Force might have been available. However, in reality they were not, because Management had no way of objectively measuring these factors. Further, trust and credibility are concepts without clear objective indicators, particularly ones that would not be contaminated by factors other than trust and credibility. Finally, measures of the quantity and quality of production were kept by Management, but not shared with the Research Team. However, these measures are affected by so many factors that there is no way to apportion the various factors affecting them, had they been made available. Further, the Quality vs. Quantity Task Force was itself ineffective as measured by the most sensitive measures available, i.e. items written specifically for this Task Force from the second survey.

#### *Thoughts on Conducting a Town Hall Meeting*

As an alternative to empirical analysis, it might be worthwhile to assess our effort at conducting the Town Hall meeting against a set of four dilemmas recently articulated by Bunker and Alban (1997, p. 201–209), who discuss this type of meeting as an example of what they call Large Group Interventions. Although this was a one-time event compared to the longer lasting Task Forces, it was pivotal in the sense that four specific agendas-for-action resulted. The Town Hall meeting set the overall strategy, which was then executed by the Task Forces.

First, the “dilemma of voice” refers to the problem of having a large number of employees all in one room. The issue is how individuals will be able to express themselves in a large group. Bunker and Alban suggest that the use of



small discussion groups during the meeting as one way to increase voice. They also suggest the “dot voting” method. When using this method, individuals can personally endorse ideas-for-action by putting small stickers on posters listing the suggestions made during the Town Hall Meeting.

In our study we used small discussion groups and did have a voting method, but the method used may be an improvement over previous methods. Our voting method gave equal numbers of two different colored poker chips to all participants, so they could independently assess both their impression of the importance of a particular issue for action, as well as their own motivation to support efforts directed at the issue. This is a more comprehensive approach because it measures both the quality of ideas (what problems should/should not be addressed) as well as the motivation of employees to work toward their resolution, i.e. decision-acceptance. As mentioned earlier, these two aspects of any decision were first articulated by Maier (1963), and later adopted by Vroom in his theory of leadership and decision-making (Vroom & Jago, 1988; Vroom & Yetton, 1973). They are both very basic and very important. To our knowledge this is the first such method for simultaneously achieving these two criteria for effective decision-making in a large group setting.

The second dilemma concerns the amount of structure that might be imposed. Too much structure might stifle both creativity, as well as voice. Too little structure, and the meeting may get completely out of hand. The recommendation of Bunker and Alban is to use small group discussion during the course of the session, as well as an agenda, and that is what happened in our version of the Town Hall meeting.

The third is called the “egocentric dilemma” referring to the tendency of meeting participants to think that their personal view of the organization is the “correct view”. Bunker and Alban suggest two ways to deal with this. First, one can present survey results that will help participants to see where their own views fit into those of others. Second, they suggest placing participants in small groups that are heterogeneous, so that individuals will be exposed to a diversity of viewpoints. We did the former in our Town Hall meeting, but let the participants select their own small groups.

The fourth dilemma is called the “contagion of affect”, which refers to the tendency of individuals in groups to adopt the majority feeling. This is probably most clearly seen when spectators attend sporting events, but has also been observed in Town Hall types of meetings. Once again Bunker and Alban suggest that using small discussion groups will help mitigate this dilemma. We believe that our particular approach to voting has a second aspect worthy of future consideration. Rather than using the “dot voting” method suggested by Bunker and Alban, our Town Hall participants placed their poker chips in large paper

bags. This made each person's votes relatively secret and it made any trend in voting virtually undetectable by other participants during the voting process. In contrast, the dot voting approach is quite public while in progress. This public aspect of dot voting can allow group affect to develop, as participants see which issues receive the most vs. least support.

### *Final Thoughts on Project Visibility*

It seems that the entire OD field is process oriented. That is, our reading of various literature reviews, as well as the many chapters in this particular annual series, tells us that relatively little attention has been paid to the specific content of what is changed. For example, Armenakis, Harris, and Field (1999) treat resistance to change as an example of commitment to the status quo. They then assess seven process strategies that are designed to institutionalize change. Our work here exemplifies three of their seven (active participation, use of surveys/internal data and pilot programs). We, however, have gone farther to consider the respective visibility of the process interventions undertaken here. This additional focus on visibility emphasizes the "what" more than the "how" of organizational change.

Perhaps the lack of attention to content issues is that they are seen as more "local" in orientation. That is, specific issues in one organization may very likely be different in another organization. In contrast, process approaches to making and institutionalizing change may be seen as more "cosmopolitan" in the sense that they apply to a much wider range of potential organizations. Thus, they may be considered more worthy of being disseminated through publications.

Although the above distinction makes sense to us, too, we believe that project visibility may be the type of content issue that is somewhat more cosmopolitan than local. Visibility is at a higher order of abstraction than that actual, specific foci of the four task forces discussed in our study, e.g. preventive maintenance. Thus, we think that a visibility assessment can, and should, be conducted in future OD efforts that involve specific pilot projects such as those described here.

## **ACKNOWLEDGMENTS**

The authors acknowledge the considerable efforts of their Ohio State colleagues, professors Robert Billings (Psychology) and Catherine Heaney (Preventive Medicine), who worked with us as part of the research throughout this three year project.

## REFERENCES

- Armenakis, A. A., Harris, S. G., & Field, H. S. (1999). Making change permanent: A model for institutionalizing change interventions. In: W. A. Pasmore & R. W. Woodman (Eds), *Research in Organizational Change and Development* (Vol. 12, pp. 97–128).
- Arguinis, H. (1993). Action research and scientific method: Presumed discrepancies and actual discrepancies. *Journal of Applied Behavioral Science*, 29, 416–431.
- Blanck, P. D., & Turner, A. N. (1987). Gestalt research: Clinical-field-research approaches to studying organizations. In: J. W. Lorsch (Ed.), *Handbook of Organizational Behavior* (pp. 109–125). Englewood Cliffs, NJ: Prentice-Hall.
- Bullock, R. J., & Svyantek, D. J. (1983). Positive-findings bias in positive-findings bias research. *Academy of Management Proceedings*, 221–224.
- Bullock, R. J., & Svyantek, D. J. (1985). Analyzing meta-analysis: Potential problems, an unsuccessful replication, and evaluation criteria. *Journal of Applied Psychology*, 70, 108–115.
- Bunker, B. B., & Alban, B. T. (1992). The large group intervention – A new social innovation? *Journal of Applied Behavioral Science*, 28, 473–479.
- Bunker, B. B., & Alban, B. T. (1997). *Large group interventions*. San Francisco: Jossey-Bass.
- Chien, I., Cook, S. W., & Harding, J. (1948). The field of action research. *American Psychologist*, 3, 43–50.
- Cook, T. D., Campbell, D. T., & Peracchio, L. (1990). Quasi-experimentation. In: M. D. Dunnette & L. M. Hough (Eds), *Handbook of Industrial and Organizational Psychology* (2nd ed., Vol. 1, pp. 491–576).
- Friedlander, F., & Brown, L. D. (1974). Organizational development. *Annual Review of Psychology*, 25, 313–341.
- Guzzo, R. A., Jette, R. D., & Katzell, R. A. (1985). The effects of psychologically based intervention programs on productivity: A meta-analysis. *Personnel Psychology*, 38, 275–291.
- Hunter, J. E., & Schmidt, F. L. (1990). *Methods of meta-analysis*. Newbury Park, CA: Sage.
- Kanter, D. L., & Mirvis, P. H. (1989). *The cynical Americans: Living and working in an age of discontent and disillusion*. San Francisco: Jossey-Bass.
- Katz, D., & Kahn, R. L. (1966). *The social psychology of organizations*. New York: John Wiley & Sons.
- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations*, (2nd ed). New York: John Wiley & Sons.
- Latane, B., Williams, K. D., & Harkins, S. (1979). Many hands make light work: The causes and consequences of social loafing. *Journal of Personality and Social Psychology*, 37, 822–832.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal-setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Macy, B. A., & Izumi, H. (1993). Organizational change, design, and work innovation: A meta-analysis of 131 North American field studies – 1961–1991. In: R. W. Woodman & W. A. Pasmore (Eds), *Research in Organizational Change and Development* (Vol. 7, pp. 235–313).
- Maier, N. R. F. (1963). *Problem-solving discussions and conferences*. New York: McGraw-Hill.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396.
- Neuman, G. A., Edwards, J. E., & Raju, N. S. (1989). Organizational development interventions: A meta-analysis of their effects on satisfaction and other attitudes. *Personnel Psychology*, 42, 461–483.

- Nicholas, J. M. (1982). The comparative impact of organizational development interventions on hard criterion measures. *Academy of Management Review*, 7, 531–542.
- Porras, J. I., & Berg, P. O. (1978). The impact of organizational development. *Academy of Management Review*, 3, 249–266.
- Porras, J. I., & Robertson, P. J. (1992). In: M. D. Dunnette & L. M. Hough (Eds), *The Handbook of Industrial and Organizational Psychology* (Vol. 3, pp. 719–822).
- Reichers, A. E., Wanous, J. P., & Austin, J. T. (1997). Understanding and managing cynicism about organizational change. *Academy of Management Executive*, 11, 48–59.
- Robertson, P. J., Roberts, D. R., & Porras, J. I. (1993). An evaluation of a model of planned organizational change: Evidence from a meta-analysis. In: R. W. Woodman & W. A. Pasmore (Eds), *Research in Organizational Change and Development* (Vol. 7, pp. 1–39).
- Scarpello, V., & Campbell, J. P. (1983). Job satisfaction: Are all the parts there? *Personnel Psychology*, 36, 577–600.
- Shani, A. B., & Stjernberg, T. (1995). The integration of change in organizations: Alternative learning and transformation mechanisms. In: W. A. Pasmore & R. W. Woodman (Eds), *Research in Organizational Change and Development* (Vol. 8, pp. 77–121).
- Terpstra, D. E. (1981). Relationships between methodological rigor and reported outcomes in organizational development evaluation research. *Journal of Applied Psychology*, 66, 541–543.
- Vroom, V. H., & Jago, A. J. (1988). *The new leadership: Managing participation in organizations*. Englewood Cliffs, NJ: Prentice-Hall.
- Vroom, V. H., & Yetton, P. W. (1973). *Leadership and decision-making*. Pittsburgh: University of Pittsburgh Press.
- Wanous, J. P., Reichers, A. E., & Austin, J. T. (2000). Cynicism about organizational change: Measurement, antecedents, and correlates. *Group and Organization Management*, 25, 132–153.
- Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology*, 82, 247–252.
- Weick, K. E., & Quinn, R. E. (1999). Organizational change and development. *Annual Review of Psychology*, 50, 361–386.
- Woodman, R. W. (1989). Organizational change and development: New arenas for inquiry and action. *Journal of Management*, 15, 205–228.
- Woodman, R. W. (1989). Evaluation research on organizational change: Arguments for a ‘combined paradigm’ approach. In: R. W. Woodman & W. A. Pasmore (Eds), *Research in Organizational Change and Development* (Vol. 3, pp. 161–180).
- Woodman, R. W., & Wayne, S. J. (1985). An investigation of positive-findings bias in evaluation of organization development interventions. *Academy of Management Journal*, 28, 889–913.