

Leadership Development as an Intervention for Organizational Transformation

A Case Study

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Increasingly, client organizations are interested in accomplishing organizational transformation and personal development goals in implementing leadership development goals. A case study in which these dual goals were explicitly stated is presented. In addition to a description of the various components of the program, outcomes research data are presented to assess the effectiveness of the program in achieving the organizational and individual development goals. No changes in individual skills or behavior were obtained. Numerous methodological explanations are advanced to explain the lack of improvement at the individual level. Evidence is presented to support the conclusion that significant improvement in organizational functioning was achieved as a result of this program.

Introduction

Until quite recently, the challenge of developing leadership has been considered from an individual development perspective. Despite the early recognition that the specifics of a situation have a significant impact on leadership success (Bass, 1990; Person, 1928; Chemers, 1997; Leonard, 2003), most efforts to develop leadership have focused on developing individual leadership competencies. With the move away from viewing leadership in terms of a leader/follower, dyadic transaction (Bass, 1960; Evans, 1970; House, 1971) to more systems-based, organizational transformation approaches (Bass, 1998; Kotter, 1996; Kouzes & Posner, 1987), organizations have begun to look at leadership development programming as an organizational development opportunity as well as an individual leadership development process.

The Case

The goals of organizational as well as individual transformation and development were explicitly stated by a non-profit research organization that contracted with Personnel Decisions International (PDI) to provide a leadership development program for the top and emerging leaders in the organization. Although the organization had many world-class scientists leading outstanding

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scientific project teams, efforts across the organization were fragmented and the impact on the larger scientific and consumer communities was limited by a lack of strategic focus. The organization, until very recently, had been structured in traditional hierarchies that emphasized top-down communication that discouraged lateral communication and collaboration. Scientists were advanced into senior leadership roles based on their individual scientific achievements rather than their ability to lead their organizations to achieve broader organizational and scientific goals and objectives.

Top leadership recognized the limitations of this structure and process. They also recognized that a leadership program that focused solely on individual leadership skill development would have limited success without addressing the prevailing organizational attitudes and norms about how "things get done around here." On the basis of these considerations, PDI designed a leadership development program to advance the recently developed vision for the organization. The strategic goals for this program were as follows: (a) to develop scientists who could lead science, not just be better managers of science projects; (b) to increase collaboration between scientists and programs, not just to produce better project teams; and (c) to develop scientist leaders who could develop programs that are more flexible, creative, and adaptive, not just be more proficient in the areas of their specialization.

These goals were clearly more ambitious than typical leadership and management programs that seek to develop individual leadership skills. In addition to the development of individual leadership skills, a primary goal of this program was to improve the way the organization as a whole functioned by involving a broad cross-section of the organization in the leadership development program. Because of the explicit organizational transformation goal, this program was an organizational transformation process as well as an individual skill development program.

Program Outline

In order to accomplish these goals, the following program elements were designed and implemented.

Participant Selection

Senior leadership invited a select group of senior, middle, and high-potential project team leaders to participate in the program. Those selected were invited to attend an orientation session that described the program goals, stressed the voluntary nature of participation, and gave a realistic description of the responsibilities and obligations of the program. From this group, 27 participants were enrolled. The participants represented the two main research divisions and the administrative division of the organization and included most of the senior leadership team, including the chief administrative officer (the acknowledged champion of the program), the head of human resources (HR), and the heads of the three divisions. Significantly, the organization's chief executive officer (CEO) did not enroll, although she supported the program. Six months after the first program commenced, a second class of 25 participants was initiated. The description to follow is based on the first two classes of the leadership development program.

Organization Assessment

Two methods were used to understand and assess the structure, processes, and dynamics of the organization:

Individual interviews of a cross-section of employees. Prior to the start of formal training, individual interviews of a cross-diagonal slice of the organization (cross-cutting unit and level of the organization) with 21 managers and staff were undertaken. The average length of the interviews was 45 minutes. The intent of the interview questions was to get a better understanding of how the organization worked and how work re-

ally got done; how work was evaluated; perceptions of the work environment; and information relative to the key program elements (leadership, teamwork/collaboration, and creativity). This information was used to help PDI gain an in-depth understanding of the strengths and development needs to assist in designing the program.

Organizational survey of the entire organization. Prior to the start of the formal training, all permanent employees, associated postdoctoral scientists, and students of the organization (a total of approximately 600) were invited to take a 122-item organizational survey (Organizational Success Profile [OSP]) using the organization's intranet. This survey provided data on organizational functioning in the following areas: strategy, planning and goal setting, leadership, innovation and risk taking, anticipating and adapting to change, absence of obstacles, commitment to the whole team, handling conflict, consistency and fairness, respecting and supporting others, sharing learnings and ideas, working with other groups, accountability, facilitating structure, informing, making decisions, managing results, recruiting and staffing, training and developing, financial resources, and physical resources. These data were used as data for the participants to use during the program (e.g., to identify valuable action learning topics) as well as to design the specific training modules. The OSP was readministered after the last training module to evaluate the overall impact of the program on the functioning of the institute.

Individual Assessment

Immediately prior to the start of the first training module, participants asked those who worked closely with them to provide anonymous feedback using a comprehensive 360-degree feedback survey instrument (PDI's Profilor for Managers [1991] if they managed people and Profilor for Individual Contributors [1993] if they managed projects

or processes rather than people). The results of this survey provided participants with feedback from their boss, direct reports (if they had any), and peers and colleagues regarding their management behavior along 24 competency dimensions. These data were used to help participants develop an individual development plan for the program and to summarize the strengths and development needs in relation to management skills for the group of participants. A follow-up 360-degree survey process was implemented at the end of the program to give participants feedback about the progress they had made on their personal development goals.

Training Modules

Four training modules were developed for this program that were aligned with the organization's vision for leadership and the development needs identified in the organizational interviews, the OSP survey, and the 360-degree feedback group summaries.

Core leadership program. This 3%-day program provided an overview of leadership from three different perspectives — personal, interpersonal, and organizational. This program provided (a) content presentations, (b) experiential exercises, (c) small group discussions, (d) peer feedback, and (e) one-on-one feedback coaching sessions. A highlight of the program was that during the feedback coaching, each participant met for 1% hours with a feedback coach to review and integrate his or her results from the 360-degree feedback report and the results of other personality and work style inventories. By the end of the program, each participant had completed a *leadership intention statement* that integrated his or her personal development goals with work and career goals and responsibilities.

Teamwork and collaboration. This 3¼-day program provided participants with the relevant knowledge about teamwork and collaboration and a realistic opportunity to practice teamwork and collaboration skills.

Some of the key issues addressed in this module were (a) when to use a team versus individual effort; (b) how to strategize, problem solve, and make decisions in a group context; (c) how to understand teams from a systems perspective; and (d) how to assess and develop team effectiveness. Central to this module was a four-part organizational simulation that afforded participants the opportunity to work in teams in a variety of realistic organizational tasks and to apply and practice the teamwork and collaboration theories and concepts presented in this module. In debriefing sessions following each simulation element, participants discussed what actions and behaviors promoted or interfered with team success and what behaviors they would modify or change in future teaming opportunities.

Creative leadership. This 3¼ day program provided participants with the opportunity to (a) learn about the creative process from an individual and organizational perspective, (b) expand their awareness of their own creative potential, and (c) integrate principles for increasing creativity into their leadership behavior (Palus & Horth, 2002). This program was heavily experiential and included many exercises to explore using art, music, dance, and poetry to tap and facilitate the creative potential of participants. Participants learned how to use the method of dialogue to improve the creativity in group settings.

Strategic leadership. This 3-day program was designed to be a culmination of the previous modules as well as other elements of the program. The content presentations in this module focused on the skills required for leading change: (a) creating a vision for the future, (b) shaping a strategy for achieving that vision that is aligned with organizational goals, (c) dealing with resistance and obstacles to change, and (d) enlisting organizational partners and sponsors to support, facilitate, and solidify organizational change. Participants from each of the three major divisions in the organization met

as teams for significant blocks of time to assess the development needs of their division and to develop a strategy along with action plans to improve the effectiveness of their organization.

Action Learning Projects

Each participant was engaged in an action learning project as part of this program. Each action learning team (5–7 participants) worked on a priority issue that had been identified by senior leadership (informed by the OSP and the organizational interviews). A PDI action learning coach worked with each team to help them work more effectively as a team and capture personal and team learnings from the process. The deliverable for each team was an organizational strategy for implementing the changes as well as recommendations. This was a prime opportunity for participants to put into action and practice the skills they were learning in the training modules.

Personal Coaching

Midway through the program, each participant met for a 2-hour follow-up coaching session with a PDI coach. The purpose of this coaching session was to assist participants to (a) assess progress on their individual development plan, (b) get refocused on development, (c) get unstuck, and (d) revise their development plan on the basis of recent events and experiences.

Developmental Progress Sessions

In order to maintain momentum and continuity between training modules, 1-day developmental progress sessions (DPSs) were held midway in the 6-month interval between training modules. These sessions served a variety of purposes. In some cases (e.g., before the Leading Creatively module), the DPS provided an introduction and warm-up to the training module that followed. Other

DPSs were used to present the final work of the Action Learning teams or to discuss the research plan to evaluate the program.

Program Review and Commencement Session

The formal training portion of the program was completed 2 years after the first training module. During a 1-day commencement session, participants applied the skills they had learned in the previous modules to developmental issues contained in the results from a second OSP organizational survey conducted in the summer of 2002.

Outcomes Measures

In order to assess the impact of the training program, three outcomes measures were obtained: (a) All program participants invited bosses, subordinates, and coworkers to provide anonymous feedback, again using PDI's Profilor for Managers (PDI, 1991) or Profilor for Individual Contributors (PDI, 1993); (b) all organization employees were invited to complete the same OSP organizational survey after all major components of the program were completed; and (c) a nonrandomly selected focus group of participants volunteered to discuss the program after the Program Review and Commencement Session at the end of the program.

Significant Events Affecting the Program

Several events occurred during this program that had a significant impact on the effectiveness of the program. Within 6 months of the program's beginning, the organization's CEO decided to accept a position at a major university. The organization also experienced the stress and disappointment of a failed search to replace the CEO. Although the CEO had not been the primary sponsor of this program, she supported the program. Because the primary supporter and

champion of the program, the chief administrative officer, remained, the major impact on the program was the emotional reactions that resulted from the CEO's departure.

A little more than a year after the program's commencement, the former CEO was successful in recruiting the program's de facto sponsor, the chief administrative officer, to her university. This was a major setback for the program because the program was clearly the vision of the departed chief administrative officer. Still without a chief administrative officer, the participants struggled both with their emotional reactions to this second departure and with the lack of a permanent chief administrative officer. Again, the program provided a useful informal vehicle for managing this transition. The more serious problem was the loss of a strong champion for the program. With the departure of this key supporter of the program, it made it all the more difficult to get support for importance of the program at the highest level of the organization.

Outcome Measures Results

Assessment of personal development via 360-degree feedback. The most direct measure of individual development is the 360-degree feedback data. Unfortunately, for a number of statistical, methodological, and procedural reasons, it has proved difficult to measure changes in personal development using a pre/post difference assessment process even when change has occurred. Some of the problems with measuring change via pre/post difference measures are strictly statistical and involve some rather arcane explanations' (e.g., Lord's Reliability Paradox, regression to the mean, and so forth). As may

'See Linn and Slinde (1977) and Goff (1998). Several other issues specific to this program make it difficult to show improvements in management skills using a pre/post difference methodology. First, participants were encouraged to focus on no more than two or three behaviors to improve.

Table 1
Mean Changes in Ratings by Organizational Theme, 2000-2002

Organizational theme	Mean change	Organizational theme	Mean change
Strategic planning	.10	Working with other groups	.14
Planning & goal setting	.13	Facilitating structure	.14
Leadership	.12	Accountability	.09
Innovation & risk taking	.07	Informing	.21
Anticipating & adapting to change	.11	Making decisions	.18
Absence of obstacles	.26	Managing results	.15
Commitment to the whole team	.09	Recruiting & staffing	.14
Handling conflict	.03	Training & development	.19
Consistency & fairness	.06	Financial resources	.07
Respecting & supporting others	.09	Physical resources	.18
Sharing learning & ideas	.13		

be expected from the above rationale, no consistent improvement in the broad set of management skills was noted by examining changes in the pre and post ratings of the 360-degree surveys.

Measurement of organizational change via OSP. Despite the difficulties inherent in using a pre/post assessment approach, a

Presumably, they made little effort to improve in other areas. Yet the follow-up 360-degree assessment asked raters to evaluate participants on 24 competency dimensions. Even if participants showed significant improvement in the two to three areas they focused on, it is unlikely that they would show changes in the other 21 or 22 competency areas (because they were making no concerted effort to do so). Assuming that the foci of development were roughly randomly distributed, the vast majority of participants will not display improvement in any particular competency. Any improvements observed for the few participants focusing on that competency, therefore, will be washed out by the lack of improvement of the majority who were making no effort to improve in that area. A second difficulty in using a comprehensive 360-degree assessment tool to measure change for the present situation is that the present program focused on a limited set of leadership skills, not the comprehensive set of management skills measured by the 360-degree feedback instrument. It may, therefore, be unreasonable to expect to get changes in a broad set of specific management behaviors when the program focused on providing training on a much narrower and complex set of leadership skills.

clear and consistent improvement in ratings of organizational function on the OSP was observed for the 2002 administration in comparison with the 2000 administration. The average rating across the 122 items increased from 3.38 to 3.51 (on a 5-point scale with 5 representing a *very favorable* response and 1 representing a *very unfavorable* response). This mean difference was significant at the .01 level, $F(5, 531) = 3.96$, after controlling for division membership, sex, race, and disability status.²

From another perspective, the percentage of favorable ratings for 2002 increased from

²A multiple regression procedure (Cohen & Cohen, 1975) rather than a standard analysis of variance was used to test the significance of main effects because of the ease with which the procedures deal with correlated independent variables, unequal *n*s, missing data, and covariates. In these procedures, the following formula for testing the significance of a variable or set of variables was used. The incremental effect of variable B over and above the effect of all other variables is tested by the following F ratio:

$$F = \frac{(R^2_{Y'A,B} - R^2_{Y'A})/b}{(1 - R^2_{Y'A,B})/(n - a - b - 1)},$$

where $R^2_{Y'A,B}$ is the incremental R^2 based on $a + b$ independent variables, $R^2_{Y'A}$ is the smaller R^2 based on only a independent variable(s), and a and b are the number of original (a) and added (b) independent variables, hence the number of d' each takes up.

56.5 to 60.4 while the percentage of unfavorable scores dropped from 20.7 to 18.6 when compared with the ratings from 2000. Although the response rate dropped from 53% to 38% from 2000 to 2002, the percentages for both samples were substantial and there was no evidence that the drop in response rate explained the improvement in ratings. Given the leadership difficulties the organization was experiencing when the second sample was obtained, it is remarkable that any improvement in scores was noted. In any case, no other organization-wide events or programs were easily identified that would provide an alternative explanation for these increases.

Summary data for the 24 organizational themes (Table 1) demonstrate how consistent the improvement in ratings was. Improvement in mean ratings was observed for all 24 themes. The greatest improvement in ratings was noted for Absence of Obstacles (.26), Informing (.21), Training and Developing (.19), Making Decisions (.18), and Physical Resources (.18). Themes displaying the least positive change were Handling Conflict (.03), Consistency and Fairness (.06), Anticipating and Adapting to Change (.07), Financial Resources (.07), and Respecting and Supporting Others (.09). Several of the themes (Absence of Obstacles, Informing, and Making Decisions) contain issues that participants focused on either in action learning projects or in work sessions during the training modules. It is also worth noting that although participants acknowledged that dealing with conflict was a problem for the organization, they did not spend much time during the program addressing this issue (i.e., they avoided dealing with conflict avoidance!).

Assessment of Program Impact Via the Focus Group

A focus group with 10 volunteer participants was held 1 month after the Program Review and Commencement Session in the

fall of 2002. Because participants volunteered for this process, a representative sample of division, level, and class was not assured. Nevertheless, the comments represented important perceptions of the program. Transcripts of this session indicated that participants recognized that an implicit goal of the program was to achieve a change in the organizational culture and to increase the sense of empowerment among staff. There was general agreement among participants that the program was to some degree successful with respect to both of these goals.

Although many participants were skeptical of the value of a leadership program, joined primarily to avoid being left out, and had low expectations for the value of the program, a number of focus group members saw some important benefits coming out of the program. Responses from the focus group indicated that the program provided: (a) a visible investment in the development of people, (b) a bonding between participants from the separate divisions, (c) a safe environment to discuss difficult or sensitive issues creating a more open process, and (d) increased trust as a result of working more closely with participants in other parts of the institute.

Discussion of Outcomes Measures Results

As noted in the previous section, many participants perceived the program to be a holding matrix for managing the significant transitions in leadership noted earlier. Not only did the program survive these significant changes, the program events provided a context for discussing and reacting constructively to these events. Prior to this program, few of the leaders of the three divisions had much formal or informal contact with each other. The divisional "silos" provided formidable obstacles to sharing information and reactions and inhibited the development of plans for managing the transition: The training programs became, in effect, "retreats" to

discuss current institute issues as well as to learn about leadership. Many positive outcomes of the relationships nurtured during the program, unfortunately, are not documented by the formal research data. Anecdotal reports, however, noted increases in the frequency of involvement of participants in events and projects in the other divisions.

Internal analysis of the data indicated that the OSP mean rating increases (.17) for one of the divisions (the largest) was highly significant, $t(20) = 15.6, p < .001$, while mean rating increases were lower (.13) in the administrative division, $t(20) = 4.40, p < .01$, and actually decreased (-.04) for the other research division, $t(20) = 1.78, p > .05$.

The differential impact of the program on the three divisions may be explained by differences in the way the two research divisions received and used the personal and organizational feedback. The leader of the larger division took feedback about his leadership style very seriously and made a very concerted effort to work on his developmental areas. Likewise, divisional members with strong support from the divisional leader developed concrete action plans to address a number of the divisional development issues identified in the OSP. The other research division had more difficulty identifying developmental priorities or developing concrete action plans to address them. The training faculty noted that certain issues were purposely avoided as being too difficult to address within the training context. It may not be surprising, therefore, that one of the divisions experienced greater performance improvement than the other.

Summary

Data from the OSP and the focus group provide strong evidence that the leadership program had a significant positive impact on the organization. Results from the 360-degree feedback process, on the other hand, did not indicate improvement in the standard management competencies. The

lack of demonstrated improvement in individual leadership competencies is disappointing but should not be surprising given the problems in establishing change in pre-post 360-degree feedback designs and the fact that each participant was focusing on only one or two development issues that may or may not have been directly reflected in a management competency measured by the 360-degree surveys. Historically, it has been difficult to demonstrate significant changes over time using a pre-post 360-degree feedback design.

The lack of demonstrated improvement on standard management competencies may have another cause as well. It was clear from the start that the vision of the program champion and sponsor (the chief administrative officer) focused on organizational development more than on individual development. Because of this priority, the program was designed to develop transformational leadership more than transactional management skills.

In fact, as the program progressed, the emphasis clearly shifted to the organizational improvement agenda with participants requesting significant time during training modules to work on organizational and suborganizational issues, sometimes at the expense of focusing on individual leadership skills. Comments in the focus group indicated that an important benefit of the program was to increase trust among individuals and between the divisions. Furthermore, participants felt that the various training events provided a safe environment to voice their concerns about sensitive topics and issues in the organization. As a result, there were limited opportunities to present content and provide practice and feedback to develop the kind of individual management behaviors that are measured in the 360-degree feedback assessment tool used in this program.

Although it is not possible, of course, to demonstrate a causal relationship between OSP rating increases and the leadership development program, a strong case can be

made that the leadership program was one important factor in the improved ratings. Even though the sample size dropped in 2002, there is no reason to suspect that the lower response rate was the cause of the improved ratings. Both samples, although not random, represent a substantial percentage of the organization.

The improvement in ratings also comes on the heels of events (e.g., the leaving of the CEO, a failed search, the recruitment away of the chief administrative officer, and a prolonged period without a permanent CEO or chief administrative officer) that normally result in *lowered*, not improved morale. The leadership program provided a matrix that fostered communication and interaction across the divisions of the organization that helped to mitigate the problems associated with the **lack of** a permanent leadership at the top of the organization.

Finally, there appears to be an explainable relationship between improvement in the mean ratings for the individual divisions and the extent to which individual and organizational feedback was accepted and converted into concrete action plans. As consulting psychologists, it is always rewarding to see our clients actually take our feedback to heart, converting the insights into action that have significant impact on the organization. Sadly and discouragingly, this is not always the case!

Lessons Learned

The expectations for leadership development programs have been broadening in recent years. The traditional model for leadership development has focused on individual development. When, as was frequently the case, high-potential managers were sent to external leadership development programs, it was difficult to leverage these programs for the additional goal of transforming the organization. The case described in this article represents an effort on the part of organizations to link personal and organizational

development goals. Because these hybrid models are new, we have much to **learn** about how to implement them. The following lessons have been learned from the data and experiences in this case.

1. Internal leadership development programs can produce observable and measurable improvements in the functioning of organizations if properly structured. Explicitly linking personal and organizational development, as this client **did**, makes it clear to participants that the organization expects direct observable and measurable results from the program. Including elements such as action learning projects in the design reinforces this expectation.

2. In order for internal leadership programs with organizational transformation goals to be successful, the organization's leadership needs to be included in the implementation as well as planning **of the program**. In the present case, this principle was noted on several occasions. The OSP data indicate a significant correlation between the degree to which leadership accepts and uses individual and organizational feedback and actual improvement in organizational functioning. On the negative side, when the chief executive and administrative officers left the organization, the program lost support for components designed to impact the larger organization. For instance, opportunities to implement good ideas and proposals emerging from the action learning projects were lost because of the lack of interest at the top of the organization.

3. Finally, if an effort is made to measure improvement in individual leadership skills and behavior, a more effective measurement strategy is required. Clients as well as consultants typically intuitively believe that a pre-post measurement approach is a simple and direct way to measure change. As has been discussed earlier, this strategy **makes it very difficult to demonstrate change *even when change has actually occurred***. Recent innovations in 360-degree measures have been developed that eliminate most of the

inherent difficulties. This strategy focuses only on the behaviors and skills that participants have targeted for change and asks respondents to rate the *degree of change* they perceive rather than the *frequency* of a behavior or *degree of proficiency*. Unfortunately, the instrument developed by PDI³ to surmount the difficulties of pre-post 360-degree measurement designs was not available in time for this program. Helping the client to overcome the difficulties in measuring outcomes is one way that consulting psychologists can demonstrate their value and differentiate themselves from consultants (cf. Winum, 2003) from other disciplines.

³Time2Change (PDI, 2002)

References

- Bass, B. M. (1960). *Leadership, psychology, and organizational behavior*. New York: Harper.
- Bass, B. M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York: Free Press.
- Bass, B. M. (1998). *Transformational leadership: Industrial, military, and educational impact*. Mahwah, NJ: Erlbaum.
- Chemers, M. M. (1997). *An integrative theory of leadership*. Mahwah, NJ: Erlbaum.
- Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Evans, M. G. (1970). The effects of supervisory behavior on the path-goal relationship. *Organizational Behavior and Human Performance*, 5, 277-298.
- Goff, M. (1998). *Perils of change scores, or, how to be misled by numbers without really trying*. Minneapolis, MN: Personnel Decisions International.
- House, R. J. (1971). A path-goal theory of leadership. *Administrative Science Quarterly*, 16, 321-338.
- Kotter, J. (1996). *Leading change*. Cambridge, MA: Harvard Business School Press.
- Kouzes, J. M., & Posner, B. Z. (1987). *The leadership challenge: How to get extraordinary things done in organizations*. San Francisco: Jossey-Bass.
- Leonard H. S. (2003). Leadership development for the postindustrial, postmodern information age. *Consulting Psychology Journal*, 55, 3-14.
- Linn, R. L., & Slinde, J. A. (1977). The determination of the significance of change between pre and posttesting periods. *Review of Educational Research*, 47, 121-150.
- Palus, C. J., & Horth, D. M. (2002). *The leader's edge: Six creative competencies for navigating complex challenges*. San Francisco: Jossey-Bass/Center for Creative Leadership.
- Person, H. S. (1928). Leadership as a response to environment. *Educational Record Supplement*, No. 6, 10-21.
- Personnel Decisions International. (1991). *PROFILOR for managers*. Minneapolis, MN: Author.
- Personnel Decisions International. (1993). *PROFILOR for individual contributors*. Minneapolis, MN: Author.
- Personnel Decisions International. (2002). *Time2Change*. Minneapolis, MN: Author.
- Winum, P. (2003). Developing leadership: What is distinctive about what psychologists can offer? *Consulting Psychology Journal*, 55, 41-46.