

PARTICIPANT COMMITMENT TO THE PRINCIPLES TAUGHT IN A WORKPLACE LEADERSHIP SEMINAR IN RELATION TO PERSONALITY TYPE

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Abstract: This study was conducted as part of a leadership seminar offered to the managers of a North American corporation. It describes the development of a custom-designed self-report outcome measure administered in an interview format, and the use of a personality type inventory. The results indicate that there are significant relationships between personality type and reported training outcomes. Participants inclined toward introspection and non-linear problem-solving reported greater commitment to the content of the values-based leadership seminar than did those with personality preferences for deductive reasoning and concrete problem-solving. The approach used in this study to the measurement of training outcomes and the inclusion of personality type as a measure of participant characteristics has potential implications for program evaluators.

Résumé: Cette étude a été menée dans le cadre d'un programme de formation sur le leadership axé sur les valeurs offert aux gestionnaires d'une entreprise nord-américaine. Elle décrit la mise au point d'un instrument d'auto-évaluation ainsi que l'utilisation d'un inventaire de types de personnalité. Les résultats indiquent qu'il existe des relations statistiques entre les types de personnalité des participants et les résultats qu'ils expriment quant à la formation. Les participants dont le type de personnalité révélait une propension à l'introspection et à la résolution non-linéaire des problèmes ont exprimé un engagement supérieur envers le contenu du programme de formation à ceux dont les préférences vont au raisonnement déductif et à la résolution concrète des problèmes. L'approche utilisée dans cette étude pour la mesure des résultats de la formation et l'inclusion du

type de personnalité comme mesure des caractéristiques des participants a des implications pratiques pour les évaluateurs et évaluatrices des programmes.

North American organizations are reported to spend more than 45 billion dollars per year in employee training (Fulmer, 1997; Meister, 1994). This is essential if they are to remain competitive in a rapidly changing workplace, in various fields including management development. In this field, it is increasingly evident that successful managers must possess business know-how, human relations skills, and a coherent system of values (O'Toole, 1996; Pitcher, 1995). Universities and colleges, however, have tended to stress the technical aspects of management while ignoring relevant values and the "human" side of management (McCormack, 1996; Mintzberg, 1989). Therefore, workplace leadership seminars that incorporate and stress such concepts as human values and interpersonal relationships are gaining in popularity. On the other hand, the outcomes of such seminars or the characteristics of persons for whom they are best suited have not been systematically studied. This may be due, among other things, to reluctance on the part of organizations and their employees to permit the outcomes of their training programs to be measured by traditional means. Yet, given the widespread use and relevance of workplace training for organizations and their employees, it seems essential to study such variables. The present study, which was conducted as part of a two-day values-based leadership seminar offered to managers of a large North American corporation, attempts to address this void by using and inter-relating measures of participant characteristics and of outcome.

Among learner characteristics, personality types deserve explicit consideration. Conceptually, they represent fundamental ways of dealing with the environment, including the work environment (Jung, 1933, 1971). Empirically, they have been widely studied in relation to formal academic achievement and to measures of success in the professions (Myers & Myers, 1980; Myers-Briggs & McCaulley, 1993), but not in relation to workplace training outcomes. In organizational settings, the most widespread measure of the normal personality is the Myers-Briggs Type Inventory (MBTI) (Myers-Briggs & McCaulley, 1993). It was selected for use in the present study for both conceptual and empirical reasons.

The measurement of workplace training outcomes presents a continuing dilemma for program evaluators. On the one hand, any thorough evaluation of workplace training programs requires the use of

outcome measures. On the other hand, and particularly in the field of management or leadership training, both employers and participants tend to reject the use of direct outcome measures such as achievement test or subsequent work performance indicators, for practical or political reasons. Furthermore, to the extent that management or leadership training programs deal with human issues such as values, needs, and motives, the validity of traditional outcome measures may be questioned. For these reasons, the senior author designed a measure of reported commitment to the concepts and principles taught in the seminar as the outcome measure. Support for the use of such self-report outcome measures has been expressed by previous authors (cf. Cusack & Thompson, 1996; Tharenou, 1995).

This study has two complementary purposes. First, it describes the outcome instrument developed by the senior author in order to assess the training program within which the study was conducted. Second, it uses this instrument, the Perceived Implementation Rating Scale (PIRS), and the well-known measure of personality types, the MBTI, to study relationships between the personality types of the seminar participants and the outcomes of the seminar as subsequently reported by them. The study proposes for consideration by program evaluators both an alternative approach to the measurement of training outcomes and the inclusion of personality type as a measure of participant characteristics.

METHOD

Participants

The study was conducted within a North American corporation with offices in various regions. Due to a chronic history of troubled management-labor relations, employee morale generally was estimated to be at an all-time low. Out of a population of approximately 6,000 managers and supervisors who had volunteered to take a two-day seminar and to participate in the study, a random sample of 1,015 participants (727 men and 288 women ranging in age from 21 to 65 years) was selected using a table of random numbers. From this group, a random subsample of 503 participants was used to carry out a principal components analysis on the Perceived Implementation Rating Scale. The other analyses were conducted on the full sample of 1,015.

Male and female participants were compared using t tests and non-parametric chi-square tests. The average ages were 43.6 years ($SD = 7.5$) for the men and 40 years ($SD = 6.8$) for the women ($p < .001$). The men had attended school for an average of 14.8 years, the women 14.5 (not statistically significant). In terms of occupational level, the women were over-represented at the supervisory level and under-represented in senior management ($p < .001$).

Procedure

This study was conducted as part of a leadership training program offered by Leaders' Forum to the managers and supervisors of a large corporation. Contractual requirements precluded the use of pre-measures or the identification by name of the corporation or its employees. The research protocol received administrative approval from the corporation and ethics approval through the University of Ottawa.

The program consisted of two-day seminars offered across North America to groups of not more than 15 persons, by a single team of trainers, over a period of four years. The seminars were interactive and conducted in comfortable seminar rooms rented for that purpose. Demographic information forms were passed out and the MBTI was administered at the end of the first day. Several weeks following the seminar, coaches hired and trained for this purpose held individual meetings with the participants in their work settings. The PIRS was completed in an individual interview format during these meetings.

Measures

In all, three instruments were used: a demographic information form, the PIRS, and the MBTI.

Demographic information. Each participant filled out a form drafted by the senior author requesting name (for coding purposes only), gender, age, education, and occupational level.

Perceived Implementation Rating Scale. This scale, designed by the senior author specifically for this study, is intended to be administered several weeks after the seminar, and provides an estimate of the extent to which each participant applied its content upon returning to work. The PIRS was constructed on the understanding

that it must satisfy three key criteria. First, to have content validity, it must reflect the main concepts or themes of the two-day Leaders for Tomorrow seminar. Second, it must enable the respondents to make a distinction between actually having applied a concept or principle and having at least made an honest effort to do so. The underlying reason is that opportunities for application of such principles may vary widely across jobs, even within a single corporation. Third, it must permit oral administration in an interview format, thereby enabling an interviewer to seek clarifications from the respondent and the respondent to provide answers in his or her own words. This criterion was introduced at the request of the organization within which the study was conducted.

In its preliminary form, the PIRS consists of 20 questions, each followed by two five-point rating scales concerning the extent to which the participant applied or tried to apply, respectively, a given concept or principle. Based on the answers and clarifications to each item, the interviewer fills in two ratings for “applying” and “trying to apply” its content.

As an example, the first question is:

In doing his/her job, does the interviewee make use of integrity-centered leadership principles?

Applying: 1___2___3___4___5
Least Moderate Most

Trying: 1___2___3___4___5
Least Moderate Most

The construction of PIRS items took place in several steps. First, the senior author and a consultant from Leaders' Forum, the organization providing the seminar, reviewed the content of the seminar and identified the following as the three major themes to be retained by participants: integrity in management, effectiveness in management, and building vertical teams. For each major theme, they wrote a series of questions reflecting its most important concepts. These were submitted to the originator of the seminar, who proposed some refinements. The refined questions were then reviewed in random order by nine judges familiar with the three major themes, and rated as reflecting or not reflecting each theme. At this point, 20 questions (see Appendix) were retained that, in the opinion of at least five judges, reflected one or more major themes.

Although most judges agreed that these questions reflected the major themes, there was little agreement on which major theme a given item was principally reflecting. Therefore, it was decided to do a pilot administration of the 40 items (20 questions, each followed by two ratings for “applying” and “trying,” respectively) to a subsample. The item scores were then subjected to a principal components analysis with varimax rotations, eigenvalue set at 1.0. Two factors were extracted and interpreted as “applying the seminar concepts and principles” and “trying to apply the seminar concepts and principles,” respectively. “Applying” was the major factor, accounting for 68.0% of the variance (eigenvalue 40.8). The “Trying” factor accounted for an additional 4.5% of the variance (eigenvalue 2.7).

Based on the principal components analysis, no distinction could be made according to the original major themes. It was therefore decided to obtain two subscores on the PIRS: an “applying” score and a “trying” score, to express overall the extent to which each participant indicated that he or she had implemented or attempted to implement the concepts and principles presented during the two-day seminar. The possibility that the major factor might reflect social desirability was minimized by the fact that all subjects were guaranteed anonymity and that the follow-up coaches stressed the idea that there were no right or wrong answers. Furthermore, only those items were retained in which the original intent of the item coincided with the factor in question, and the factor loading exceeded 0.60 (see Table 1). Therefore, in its final form, the PIRS consists of 15 items.

Using the total sample, the reliability of the 15-item PIRS was calculated using alpha coefficients of internal consistency. The Applying scale yielded $\alpha = 0.97$ and the Trying scale yielded $\alpha = 0.92$.

Myers-Briggs Type Inventory. This is a measure of the normal personality based on Carl Jung’s typology, widely used in the organizational context (Myers-Briggs & McCaulley, 1993; Tischler, 1991). It measures 16 personality types that describe behavior preferences that may facilitate or hinder the exercise of effective leadership. More specifically, the 16 types correspond to those described by Jung (extraversion-introversion, E-I; thinking-feeling, T-F; and sensing-intuition, S-N), plus two additional general orientations to the world derived from subsequent studies carried out from a Jungian perspective (judging-perceiving, J-P). The possible combinations of these

orientations and functions yield the sixteen MBTI types: ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, INFP, INTP, ESTP, ESFP, ENFP, ENTP, ESTJ, ESFJ, ENFJ, and ENTJ. The MBTI manual provides ample evidence of the validity of this instrument for use in the North American workplace, and notes that alpha coefficients exceed 0.80 for the total test.

The Leaders for Tomorrow Seminar

As the training vehicle for the study, the authors selected a two-day seminar for managers and supervisors titled "Leaders for Tomorrow" (Wypianski, 1990). The seminar was designed by a North American management consulting group to provide leadership training in the workplace, with emphasis on three fundamental dimensions of effective organizational leadership: personal and interpersonal growth and effectiveness, managerial leadership effectiveness, and organizational performance. Of special interest to the present study was the fact that this seminar emphasizes exploration of personal values and the application of strategies based on personal val-

Table 1
Perceived Implementation Rating Scale: Items with Factor Loadings Exceeding .60 Based on a Principal Components Analysis

PIRS Items	Factor Loadings	
	Applying	Trying
<i>Applying subtest</i>		
Reinforces and supports people with constant leadership	.84	.36
Attempts to establish a mutually accountable support system	.78	.42
Creates environment conducive for positive work experience	.78	.45
Communicates with positive feedback	.77	.43
Uses personal strengths to lead people	.76	.41
Practices and leads by principles	.75	.47
Recognizes the group's individual skills	.75	.44
Fosters dynamic system of internal/external communication	.75	.45
Discusses management by responsibility	.72	.45
Applies learning to suit culture's values/goals	.72	.49
<i>Trying subtest</i>		
Reviews the people involved in circle of influence/concern	.36	.82
Discusses people's attitudes and enhanced performance	.31	.80
Understands basic human needs and relationship values	.46	.75
Discusses personal work-related behavior	.48	.71
Promotes climate that encourages high-level performance	.38	.68

ues and integrity to the solution of workplace problems and dilemmas. This seminar appeared well suited to the exploration of relationships between the results of the seminar reported as commitment to the principles taught and the personality types of the participants.

Conceptually, the seminar was divided into two parts. The first, titled "Inward Bound," consisted of an exploration of human nature and behavior with emphasis on such themes as effective self-development, responsibility and accountability, human needs, effective relationships, and the use of strengths in changing counterproductive habits. The second, titled "Outward Bound," included discussion of the impact of one's personality on one's work environment, presentation of a model of values-based leadership, and specific consequent strategies for the enhancement of leadership effectiveness in the organization.

Individual follow-up sessions by coaches with the managers and supervisors who had participated provided an opportunity to reinforce key concepts acquired during the two-day seminar. Between one and five follow-up sessions were provided as requested by each participant. The PIRS ratings were always obtained at the beginning of the first session, after the establishment of initial rapport between coach and participant.

RESULTS

Personality Types of the Participants

Table 2 presents the distribution of participants by MBTI personality type and gender. The distributions of men and women are significantly different ($p < .001$). Based on the chi-square test and an analysis of the standardized residuals, the men are under-represented relative to the women on personality types ISFJ, ENFP, and ESFJ, and the women are under-represented relative to the men on types ISTP and ESTJ. Both the men and women who constitute this North American sample reveal significant differences ($p < .001$) from the norms for United States adult men and women provided in the test manual. In comparison to the relevant norms, the men are under-represented on types ISFP, INFP, ENFP, and ENFJ but over-represented on types ISTJ and ESTJ, whereas the women are under-represented on INFP, ESFP, and ENFJ but over-represented on ISTJ, INTP, ENTP, and ENTJ.

PIRS Scores of Participant Groups Divided according to MBTI Personality Type

To address the principal purpose of the study, the participants were grouped according to personality type. The Applying and Trying PIRS scores of the groups were compared by means of multivariate analyses of variance (MANOVA), after it was established that demographic variables were not significant as covariates.

The first MANOVA (see Table 3 for the means and standard deviations) compared all 16 personality types. Using the Pillais' criterion, both the multivariate ($F = 1.97, p < .001$) and univariate (Applying: $F = 2.82, p < .001$; Trying: $F = 3.20, p < .001$) main effects were statistically significant. In other words, based on an overall comparison, there are significant differences in the average Applying and Trying scores reported by groups subdivided according to MBTI personality type.

In order to establish more precisely the nature of the preceding differences, additional MANOVAs were carried out, with personality

Table 2
Distribution of Participants in This Study and of the Normative Groups according to MBTI Type

	Male %		Female %	
	Participants	Norm	Participants	Norm
1. ISTJ	19.4	15.5	14.6	9.8
2. ISFJ	5.5	4.4	9.7	10.3
3. INFJ	2.5	2.6	2.8	4.8
4. INTJ	8.7	7.3	5.6	4.0
5. ISTP	6.5	6.1	2.8	2.7
6. ISFP	1.4	3.0	2.4	4.2
7. INFP	2.6	4.8	3.1	6.3
8. INTP	8.0	7.1	6.6	3.2
9. ESTP	4.3	5.9	3.8	2.8
10. ESFP	2.1	3.1	3.1	5.7
11. ENFP	3.6	5.4	7.3	10.0
12. ENTP	6.6	6.9	7.3	4.1
13. ESTJ	18.3	14.0	10.4	10.1
14. ESFJ	2.6	4.4	9.4	10.7
15. ENFJ	1.5	2.7	2.8	6.3
16. ENTJ	6.6	6.9	8.3	5.2

Note. "Normative groups" are as outlined in Myers-Briggs & McCaulley (1993).

type as the classification variable, to contrast the PIRS Applying and Trying scores of the following subgroups: TJ (thinking-judging: ISTJ + INTJ + ESTJ + ENTJ) versus non-TJ (the remaining 12 MBTI types combined into one group) — extraversion versus introversion, sensing versus intuition, thinking versus feeling, and perceiving versus judging. The TJ versus non-TJ comparison was intended to contrast persons whose approach to problems is cognitive and logic based (a traditional management stereotype) with persons whose approach to problems is more feelings based (recognized in more recent management approaches). The E-I, S-N, and T-F comparisons were carried out in relation to the opposites first described by Jung (1933, 1971) and considered to be the most fundamental orientations of the personality. Finally, the P-J comparison is a contrast of the most general orientations to the world described by Myers-Briggs and McCaulley (1993). In all cases, preliminary two-way MANOVAs (personality \times gender) failed to yield any significant interactions. With reference to personality, one-way MANOVAs showed that the Applying and Trying PIRS scores of the TJ group were significantly

Table 3
Means and Standard Deviations Obtained on the PIRS Applying and Trying Scales by
Subjects Grouped according to the 16 MBTI Personality Types

MBTI Type	n	PIRS Scores			
		Applying		Trying	
		\bar{x}	SD	\bar{x}	SD
ISTJ	183	3.22	.99	3.62	.82
ISFJ	68	3.44	.98	3.83	.83
INFJ	26	3.40	.77	3.84	.75
INTJ	79	3.05	.92	3.47	.95
ISTP	55	3.22	1.10	3.67	.98
ISFP	17	2.82	1.21	3.37	.77
INFP	28	3.46	.67	3.96	.66
INTP	77	3.32	.86	3.77	.72
ESTP	42	3.12	1.06	3.71	.82
ESFP	24	3.38	1.23	3.87	1.08
ENFP	47	3.64	.84	4.09	.77
ENTP	69	3.31	.87	3.68	.78
ESTJ	163	3.06	1.09	3.51	.98
ESFJ	46	3.67	.76	4.10	.67
ENFJ	19	3.68	.78	3.99	.59
ENTJ	72	3.43	.87	3.77	.79
Total	1,015	3.28	.97	3.70	.86

lower than those of the non-TJ group (Pillais' multivariate: $F = 10.06$, $p < .001$; Applying: $F = 11.53$, $p < .001$; Trying: $F = 19.58$, $p < .001$), and those of the Thinking group were significantly lower than those of the Feeling group (Pillais' multivariate: $F = 12.65$, $p < .001$; Applying: $F = 19.30$, $p < .001$; Trying: $F = 25.28$, $p < .001$). These results are summarized in Table 4. The remaining contrasts were not statistically significant.

DISCUSSION

Perceived Implementation Rating Scale (PIRS)

This study was carried out in conjunction with a leadership training seminar provided under contract to English-speaking managers and supervisors of a large corporation. Although contractual requirements precluded the use of both direct performance measures and supervisor ratings, it was still considered relevant to create and use a measure of the extent to which the seminar participants subsequently reported applying or trying to apply concepts and principles acquired during the seminar. In the authors' view, too many workplace seminars are assessed only in terms of how well the participants liked the seminar at the time it was given. The PIRS provides a subsequent outcome measure. The fact that the PIRS ratings were filled out by coaches during individual interviews adds to their validity by enabling the coaches to take into account participant comments that, in effect, may clarify and refine their replies. Due to the

Table 4
Means and Standard Deviations Obtained on the PIRS Applying and Trying Scales by Subjects Grouped into TJ and Non-TJ Groups Based on MBTI Types

MBTI Type	Gender	<i>n</i>	PIRS Scores			
			Applying		Trying	
			\bar{x}	SD	\bar{x}	SD
TJ types	Male	385	3.11	1.00	3.51	.89
	Female	112	3.36	1.00	3.83	.87
	TJ Total	497	3.17	1.00	3.58	.90
Non-TJ types	Male	342	3.32	.96	3.78	.84
	Female	176	3.50	.89	3.91	.75
	non-TJ Total	518	3.38	.94	3.82	.81

Note. The TJ group combines ISTJ, INTJ, ESTJ and ENTJ. Non-TJ combines all other MBTI types.

fact that two factors (Applying, Trying) were identified, that the reliability coefficients were high, and that significant findings were obtained when relating PIRS scores with personality types, the authors view this indirect outcome measure as appropriate for this applied study.

Indeed, this approach may be readily adaptable for use in other studies of training in the workplace. For example, self-ratings of training outcomes may be a relevant component of any program evaluation that involves workplace training. It would be a straightforward matter to convert the items shown on Table 1, whose content may be applicable to a wide range of training contexts, into a two-subtest scale consisting of the items followed by five-point rating scales. With appropriate instructions, such scales could be self-administered on paper or even via the Internet, in evaluations involving at least 75 subjects (that is, a minimum of five subjects per item).

Personality Types in Relation to Seminar Outcomes

Although theories of adult learning have generally failed to take into account individual differences in learners (Wyspianski, 1999), several authors in the field of education have argued for the importance of individual differences in learners and noted that personality may be related to learning style (Geisler-Brenstein, Schmeck, & Hetherington, 1996; Lanese, 1983; Tempkin, 1982). In this study, the authors extend this reasoning by relating two indirect outcome measures to personality types of normal adult learners, using as context a workplace leadership seminar. From the perspective of leadership theory, the nature of the leadership seminar is not central to the study. However, the authors opted for a seminar stressing the values-driven philosophy that the actions of successful leaders must reflect deeply held basic values with which their followers identify (Badaracco & Ellsworth, 1989). The authors reasoned that, if differences in personality types are related to training outcomes, such relationships should become especially apparent in the context of a seminar that focused on basic human needs and values. Such a seminar should, in principle, be perceived as more or less comfortable and acceptable depending on one's personality type.

The results of the study confirm the expectation that certain learning outcomes are related to personality types. More specifically, and taking into account that the seminar consisted largely of an exploration of human needs and values rather than a presentation of

management techniques, one may conclude that participants whose tendencies are toward deductive reasoning and concrete problem-solving (the TJ and thinking MBTI types) were less comfortable with the content and focus of the seminar than participants who are more inclined toward introspection and non-linear problem-solving (the feeling and non-TJ MBTI types).

In conclusion, several implications of this study for those who offer training in the workplace, or who evaluate such programs, deserve to be highlighted: (1) even when direct performance outcome measures cannot be used, less direct outcome measures have value, especially if they are constructed in relation to the content and objectives of the training program in question; (2) individual differences in learner characteristics deserve further study in the area of adult education in the workplace, because the extent to which the content of a training program is more or less compatible with the personal predispositions of the learners will probably influence both their acceptance of the training program and their subsequent application of it at work; (3) to the extent that the personality predispositions of a given employee group can be determined in advance of offering training programs, those in charge may wish to select programs and training approaches that are compatible with the most salient predispositions of the group; and (4) when persons must undertake training in a format that appears contrary to their preferred style or type, to the extent that they are informed about the possibility of such incompatibility, they may be more willing to accept as opposed to criticizing such training.

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