

Using the Myers-Briggs Type Indicator® to Develop Managers and Leaders

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Summary

This paper reviews the utility of the Myers-Briggs Type Indicator® (MBTI®)¹ as a tool for developing managers. The following topics will be explored: communication and conflict resolution, problem solving and decision making, and organization and team development. Several practical applications are discussed as well as implications for the ethical use of the MBTI in developing managers.

Management development is an organization's conscious effort to provide its managers (and potential) managers with opportunities to learn, grow, and change, in hopes of producing, over the long term, a cadre of managers with the skills necessary to function effectively in that organization (McCall, Lombardo, & Morrison, 1988, p. 147). Finding ways to develop managers to meet the changing needs of customers and to satisfy shareholder expectations is a continuing challenge in the United States and abroad.

The U.S. Bureau of Statistics estimates that the workforce contained approximately 9.1 million managers in 2004. This category is expected to show a net gain of one million between 2004 and 2012, or more than an 11.3 percent increase. As an occupational group, managers are expected to make up 6.2 percent of the total labor force in 2012 (Bureau of Labor Statistics, 2005). The problem becomes more complex when the lightning speed of technology, shorter product cycle time, growth of knowledge and information workers, and the press of global business are factored into the equation (Garavan, Barnicle, & O'Sulleabhain, 1999).

1. The Myers-Briggs Type Indicator® and MBTI® are registered trademarks of CPP, Inc., 1055 Joaquin Road, Mountain View, CA 94043.

Management development in the United States appears to be moving toward competency-based strategic development of managers (Werner & DeSimone, 2006). A study of five European countries and their management development efforts is reported by Mabey (2001), who concluded that such efforts continue to increase in terms of average training days per year from the previous decade. Mabey (2001) also stated that such efforts appear to be "externally and strategically driven, suggesting a more coherent rather than piecemeal approach" (p. 423). At the other extreme, Wang and Wang (2006) recently concluded that the development of managers in China is fragmented and lacks a cohesive infrastructure.

This paper reviews the utility of the Myers-Briggs Type Indicator (MBTI) as a tool for developing managers. The following topics will be explored in relation to management development: communication and conflict resolution, problem solving and decision making, and organization and team development. The implications for use in transnational settings will be explored.

Overview of the MBTI

The MBTI is one of the most universally used measures of "well person" personality types available today (Bayne, 2004; Myers, McCaulley, Quenk, & Hammer, 1998). General uses are reported in counseling and clinical settings (especially marriage and family applications), educational and learning settings (K-12 through higher education), religious and spiritual contexts, and management and organization development (Carskadon, 2002). Several reviews of research and applications of the MBTI in management-related functions include Gardner and Martinko (1996), Sample (2004), and Sample and Hoffman (1986). Carskadon (2002) cites no less than fifty-six articles related to management practice over a twenty-five year period in the *Journal of Psychological Type* and Walck (1992) reviews more than sixty journal articles from numerous sources on the effects of psychological type, management, and OD. Gardner and Martinko (1996) provide the most complete and unbiased review of the MBTI as it applies to studying managers and organizations.

Despite criticism of the MBTI on psychometric grounds (McCrae & Costa, 1989; Stricker & Ross, 1964), the instrument has established an impressive record of reliability and validity when used appropriately (Bayne, 2004, 2005). Reported internal consistency reliability for the four MBTI functions is very acceptable: E-I (.91), S-N (.92), T-F (.91), J-P (.92) (Myers, McCaulley, Quenk, & Hammer, 1998). Four of the Big Five personality factors are strongly correlated with the four MBTI factors (McCrae & Costa, 1989). The MBTI has been used to study relationships with other psychological constructs, for example, FIRO-B®, California Psychological Inventory, Kirton Adaptation-Innovation Inventory, and Leadership Style Indicator (Fleenor, 1997;

Schnell & Hammer, 1997). The MBTI has been translated into twenty-one languages in addition to the original U.S. version. These translations are available from CPP, Inc. (www.cpp.com).

Overview of Personality Type

Designers of management development programs are challenged to identify and exploit learning methods and techniques that have utility across cultures and international borders. Assisting transnational managers to better understand their sources of mental energy, ways that managers gather information and their approaches to decision making, and for controlling self and others is essential given the cross-cultural skills identified by Harris and Kumra (2000). In spite of cultural differences, managers are more alike than different when viewed through the lens of Jung's archetypes (Jung, 1946; VanSant, 2003). This is not to downgrade the importance of cultural differences, moreover to enable transnational managers to identify cognitive similarities as well as differences.

Jung's theory of psychological type states that what appears to be random variation in human behavior has order and consistency, and therefore is predictable (Hall & Norby, 1973). The MBTI is based on Jungian type theory. The MBTI instrument describes four dichotomies, each made up of a pair of opposing preferences:

- *Extraversion or Introversion (E or I)*: Determines source of energy. Extraverted types are energized by interacting with their social environment; Introverted types are energized by retreating within themselves.
- *Sensing or Intuition (S or N)*: Sensing types rely on factual and practical application; those who perceive situational possibilities from a larger perspective rely on Intuition.
- *Thinking or Feeling (T or F)*: Thinking types rely on logical and analytical conclusions; Feeling types make decisions using affect, empathy, and values.
- *Judging and Perceiving (J or P)*: Judging types focus on organizing self and others; Perceiving types allow for adaptation and free-flowing views of the world.

In this context, "preference" means that each of us has the capability to use either of the listed preferences (E or I, S or N, T or F, J or P), yet we "prefer" one over the other. For example, the author is a confirmed and practicing introvert who has learned the skills necessary for surviving and thriving in an extraverted world. Others may prefer extraversion

and their least-practiced preference would be as an introvert. This is not an either-or dichotomy. We can do both; however, each of us has a preference for one over the other. It is the individual's identification of his or her combination of preferences that defines one's personality. These cognitive processes, according to Jung (1946), are basic to the human race and therefore may be common to different cultures.

Personality Type in Organizations

The distribution of the sixteen personality types in typical organizations is weighted to the four corners of the type table. ISTJ, ESTJ, INTJ, and ENTJ are typically over-represented in corporate America when compared to the general population.

Reynierse (1993) assessed personality type by organizational level to determine the proportion and distribution of managers. He concluded from a sample of 1,952 that Extraverted types, Thinking types, and/or Judging types were over-represented when compared to the general population. Lower-level managers were more likely Sensing types, proportions of Intuitive types increased with succeeding levels of management, and Intuitives predominated among executives.

Several researchers working independently determined that Sensing-Thinking dichotomies and Intuitive-Thinking dichotomies populate organizations (Gardner & Martinko, 1996; Mitroff & Kilmann, 1975). They conclude that Sensing-Thinking dichotomies are more likely to be managers who value quantitative information systems. Underrepresented in the type table are Intuitive-Feeling types and Sensing-Feeling types, who value subjective and humanistic environments.

The use of personality inventories in cultures other than the one in which norms have been developed requires caution and respect for diversity. Given this caution, "MBTI researchers and practitioners in a wide variety of cultures report results very similar to those found by researchers and practitioners using the MBTI in the United States" (Kirby & Barger, 1998, p. 371). Kirby and Barger do advise that cultures that rely on collectivism, the close identification by people with strong nationalism, may not be appropriate for the MBTI, which assesses individual personality types.

Communication and Conflict Resolution

The importance of effective communication between managers and their peers and between subordinates and superiors cannot be emphasized enough. Failure to communicate effectively may lead to costly mistakes and messy conflicts (Benfari, 1999).

Ineffective communication attributed to cultural differences may be more effectively explained by differences in personality type as well as by cultural differences. For ex-

ample, managers from various countries who exhibit Sensing-Thinking and Intuitive-Feeling (NF) dichotomies will have predictable comfort zones and areas of conflict.

Managers continually communicate in face-to-face settings, either in dyads or small groups. Yeakley (1983) concluded that "Two people must use the same communication style at the same time in order to communicate effectively. This often requires some communication adjustment on the part of one or both of the individuals involved" (p. 5). The Communication Adjustment Index (CAI) was developed by Yeakley to predict the communication effectiveness between two people. The CAI accounts for all possible type pairings, including such factors as dominant and lesser-used functions. For example, the dominant function for an INTJ is Intuition, followed by Thinking, Feeling, and the least-developed (and preferred) is Sensing.

Yeakley (1983) conducted six studies in which similar and dissimilar personality types participated. The CAI scale uniformly demonstrated statistically significant predictions of communication effectiveness with a one-way communication adjustment scale or a two-way communication scale.

Communicating face-to-face in two-person dyads is easier when managers and the object of their joint communication efforts are more alike than different. It is more likely that each partner will be different from the other on at least one of the MBTI scales. Given these conditions, it behooves each party to "flex" out of his or her preferred mode and to adopt an approach consistent with the other person's personality type. Two ESTJs will likely experience fewer problems communicating, given similarity of personality type, whereas an ESTJ and an INFP will have to flex to each other's personality types in order to more effectively communicate. According to Allen and Brock (2000), "flexing" to the other person's personality avoids viewing the other person as wrong (and feeling critical of him or her) or viewing oneself as wrong (and feeling critical of self). The failure to flex to the other's personality may leave one or both parties feeling incompetent as a communicator.

Problem Solving and Decision Making

When solving problems, Introverted types will "want to take time to think and clarify their ideas before they begin talking, while those who prefer extraversion will want to talk through their ideas in order to clarify them" (Huitt, 1992, p. 34). The dichotomies Sensing-Thinking, Sensing-Feeling, Intuitive-Thinking, and Intuitive-Feeling have been used to research problem solving and decision making. According to Mitroff and Kilmann (1975), personality type is predictive of organizational preferences for problem solving and decision making. The Sensing-Thinking dichotomy prefers an impersonal, realistic, and bureaucratic organization, whereas the Intuitive-Feeling dichotomy prefers personal idealism and an organic organization. The Intuitive-Thinking

dichotomy as planners prefers long-range strategic planning, whereas the Sensing-Feeling dichotomy manager plans more for the short term, with a focus on human relations. Mason and Mitroff (1973) and Kerin and Slocum (1981) determined that there is a preference for type of information. Sensing types want factual raw data, and Intuitive types prefer stories. Thinking types prefer abstract information, and Feeling types prefer artistry.

Given the preferences mentioned above, Haley (1997) theorizes that managers may demonstrate certain types of biases when conducting strategic planning. For example, the Sensing-Thinking dichotomy as strategic planners may overly analyze data (input bias), resulting in conservative recommendations (output bias) with little reanalysis (operational bias). Each of the other dichotomies (S-F, N-F, and N-T) has a predictable set of biases when conducting strategic planning.

Haley and Pini (1994) facilitated groups of managers in Italy and Mexico in various decision-making exercises. Their observations regarding three forms of potential bias in decision making are summarized in Table 1. This study provides additional support for Jung's belief that personality types are similar across cultures.

Managing Teams and Organization Development

One of the most extensive uses of the MBTI in organizations continues to be with teams and change management. Organizations can be "psychologically typed," which enables employees and stakeholders to more effectively characterize the nature of an

Table 1. Potential Bias in Decision Making in Function Pairs

Potential Bias	S-T	N-T	S-F	N-F
Input bias (gathering information)	May ignore patterns in favor of specific facts. Relies on logical procedures.	May ignore information that differs from analytical model.	May ignore factual data in favor of opinions of others.	May ignore factual data in favor of symbols, imagery, and metaphors.
Output bias (generating alternative solutions)	Relies on what has worked in the past.	Relies on information that confirms analytical model.	Relies on options that have broad political support.	Relies on value-based analogies and novel ideas.
Operational bias (source for decision)	Relies on standardized practices that provide structure.	Prefers a logical approach that is visionary, conceptual, and future-based.	Takes cues from people in the workplace for his or her needs and wants.	Prefers a value-based experience that forms a vision.

organization (Bridges, 1992). Hammer and Huszczo (1996) contend that two critical assumptions underlie the use of MBTI with teams:

- Knowledge of individual differences will help teams identify the particular talents and gifts that each member can bring to the task.
- This knowledge can help reduce conflict by reframing potential sources of misunderstanding as natural individual differences. (p. 82)

Several researchers cite the potential use of the MBTI in organization development interventions. The Organizational Team and Culture Indicator survey is available from the Center for Applications of Psychological Type (www.capt.org). The OTC compares respondents' values with the organization's values, assesses the respondents' personal directions with that of the organization, compares personal commitment to the organization's purpose, and assesses potential for conflict (Pearson, 2003). Wagner and Weigand (2006) have developed a survey instrument and method for determining the effectiveness of MBTI training in organizations.

The psychological type of change agents and consultants (both internal and external) has been the subject of research. Slocum (1978) determined that, although consultants with different personality types use similar change management strategies, the Sensing-Thinking dichotomy prefer behavior management strategies, whereas Intuitive-Thinking types tended to use survey feedback. Consultants who claimed the Intuitive-Feeling type personality preferred group approaches, and Sensing-Feeling types preferred transactional analysis techniques. Hamilton (1988) determined that peers and superiors rated Intuitive types more effective than Sensing types, and that the Thinking-Feeling dichotomies were unrelated to effectiveness as OD consultants.

Developing Managers and Leaders

Recall that managers tend to be distributed to the four corners of the type table—ISTJ, ESTJ, INTJ and ENTJ—but also that managers are represented throughout the sixteen types. The fact that STJs and NTJs are attracted to supervisory and managerial positions should not be interpreted as necessary for success. There is no assumption of advanced abilities, superior intellect, or prediction of effectiveness by virtue of being positioned in one of the four corners of the type table. There are successful INFP and ESFJ managers and executives in organizations!

It would be a serious design flaw for designers of management development programs to merely report static views of personality types within an organization, work groups, or teams (Kirby, Barger, & Pearman, 1998). Stereotyping of managers and employees based on personality type is to be avoided. To do so could be considered an

ethical breach in the use of the MBTI (and other similarly situated instrumentation). The power of management development is to enable managers to develop beyond their current abilities and habits. Extraverted types can learn to practice the skills associated with introversion (reflection, contemplation, listening); Introverted types can learn to trust their reasoning and not “sit on their ideas.” Sensing type managers can learn to be less “in the here and now” and explore “out of the box” dialogues involving change. Managers who over-rely on a preference for Thinking can practice skills associated with Feeling (leading through commitment and involvement of others). All managers, regardless of their position on a type table, “may have to develop [their] less preferred preference in order to cope with the demands of the job” (Curd, Dent, & Carr, 2005).

Research by Barr, Church, and Waclawski (2000) confirms the utility of personality measures in conjunction with multi-rater feedback. Managers are better equipped to understand and appreciate individual differences in others—subordinates, colleagues, and their supervisors. Executive coaches privy to personality type assessments are better able to help executives understand contextual and interpersonal relationships.

Several resources using the principles underlying psychological type and the MBTI are available to guide the development and leadership of managers. The *MBTI Team-building Program* by Hirsh, Hirsh, and Hirsh (2003) and *Using the MBTI Tool in Organizations* by Hirsh and Kise (2001) are excellent resources that provide users with valuable insights, exercises, and reproducible handouts. Other sources include Huszyczko (2004) and Benfari (1999).

Williams and Deal (2003) provide one of the most intriguing conceptual frameworks for developing managers. The underlying assumption is that managers can learn to integrate leadership and management through type development. The authors combine two approaches—Jungian personality types and Bolman and Deal’s (2003) organizational frames model (structural, political, human resource, and symbolic)—as a conceptual framework. This approach assumes that the capability for leadership and management is embedded within each manager and that continuing awareness will lead to these “opposites dancing.”

Applying the MBTI to Management Development

There are several applications for which the MBTI (and similar inventories) have utility in the development of managers. Following are a few applications.

- *Comparing a natural personality preference to higher level job duties.* Those who aspire to a higher level of management should be aware that one’s natural preferences may not be sufficient for mastering the challenges of being an effective manager. For example, first-level supervisors who are experts in the

application of Sensing-Thinking dichotomies (procedure-driven applications) will find that higher-level managers are required to view a larger organizational landscape that is fraught with conflicting goals, political finesse, and decision-making challenges (Cooper, Gibbons, & Handyside, 2002). Comparing personal work preferences with future job requirements will encourage developmental opportunities.

- *Large-scale project orientation.* The MBTI can be used to assist managers to better understand the power of interpersonal relationships at the beginning of a large-scale project. Communication and problem-solving preferences that are not understood, or are misinterpreted, will only delay the progress of a project team. Remember that personality type can be viewed as a source of diversity that can be useful in a variety of cultural settings.
- *Developing the leader-manager.* Distinctions abound in the literature as to what constitutes the differences between leaders and managers. The reality is that both roles are essential for success. The MBTI is useful for enabling managers to understand the need for flexibility in corporate environments (Campbell & Samiec, 2005). There is no one best leadership profile, and each of the sixteen personality types has the potential to lead. Development is necessary to help managers understand that each of us has a flexible range of possibilities in leading others.
- *Recognizing and managing stress.* According to Myers, McCaulley, Quenk, & Hammer (1998), "The variety and continuity of stressors in the workplace provides a living laboratory for recognizing the distinctive ways in which [managers] of each of the sixteen types experience and react to stress" (p. 344). Managers who are able to use their dominant preferences at work will be less stressed than those who are expected to use their auxiliary or least-preferred preferences. Providing managers with an understanding of type dynamics will enable managers to strengthen their auxiliary preferences.

Administering the MBTI

"Use of the MBTI in management and organizational development forums has reached epic proportions. With such widespread use comes a potential abuse in the administration and interpretation of an employee's feedback scores" (Sample, 2004). Designers of management development programs are implored to use reliable and accepted measures of personality type. Avoid the temptation to use short forms that are available from a variety of sources, including the Internet. These forms are often unreliable

and inaccurate. Do not infringe on international copyright laws by making unauthorized copies of the MBTI and other similar questionnaires and scoring forms.

Jung's theory of personality type as measured by the MBTI and related instrumentation is complex. The availability of more sophisticated assessments with computer-scoring options adds to the complexity of interpretation (Kirby, Barger, & Pearman, 1998; McCaulley, 2000). Those who plan to purchase and use the MBTI from CPP, Inc., or other licensed vendors, must have completed a course in psychological tests and measurements. The MBTI is a "B level" psychological instrument that requires the user to be minimally "qualified by education" by an accredited university or college. Also available through several providers are certification programs for the MBTI. Certification provides an additional measure of competence and protection for an organization. It is not unreasonable to require internal and external management development consultants to be qualified by education, and potentially certified by legitimate providers of the MBTI.²

There are ethical considerations in the use of MBTI and similar instruments, such as the FIRO-B and the NEO-PIR. Balancing privacy and confidentiality in the facilitation of MBTI programs is an important ethical issue (Fields & Reid, 2006). According to McCaulley (2000), "Answering the MBTI is optional. . . . As the MBTI spreads through an organization and is used with teams, the consultant should make sure that individuals give permission for sharing results on a type table or in type-alike groups. In actual practice, when the MBTI is well taught, most people are pleased to share type information. Consultants need to be prepared, however, for accommodating those who are not willing to share their types" (p. 130).

Closing Comments

The MBTI is the most widely used measure of personality for non-clinical populations in the world. Each of the sixteen types has strengths and limitations, and some types are more naturally suited for some kinds of work than others. Designers of management development programs are admonished to use the MBTI (and other similar questionnaires) in ways that strengthen the manager's bond to work-related outcomes, more so than merely exploring personality preferences. Revelations about the self are important only if they strengthen the manager in ways that promote managerial development and effectiveness.

2. The CPP, Inc., website currently lists more than twenty-five qualified providers of MBTI certification training (www.cpp.com/content/qual_mbti_cert.asp).

- Myers, I.B., McCaulley, M.H., Quenk, N.L., & Hammer, A.L. (1998). *MBTI manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Pearson, C.S. (2003). *Understanding archetypes in your organization: An introduction to the OTCI basic report*. Gainesville, FL: Center for Applications of Psychological Type.
- Reynierse, J.H. (1993). The distribution and flow of managerial types through organizational levels in business and industry. *Journal of Psychological Type*, 25, 11–23.
- Sample, J.A. (2004). The Myers-Briggs Type Indicator and OD: Implications for practice from research. *Organization Development Journal*, 22(1), 67–75.
- Sample, J.A., & Hoffman, J.L. (1986). An evaluation of organizational development strategies using the MBTI as a management and organization development tool. *Journal of Psychological Type*, 11, 47–50.
- Schnell, E.R., & Hammer, A.L. (1997). Integrating the FIRO-B with the MBTI: Relationships, case examples, and interpretation strategies. In C. Fitzgerald & L.K. Kirby (Eds.), *Developing managers* (pp. 187–224). Palo Alto, CA: Davies-Black.
- Slocum, J. (1978). Does cognitive style affect diagnosis and intervention strategies of change agents? *Group & Organization Studies*, 3, 199–210.
- Stricker, L.J., & Ross, J. (1964). Some correlates of a Jungian personality inventory. *Psychological Reports*, 14, 623–643.
- Thomas, C.R. (1984). Regression of the Myers-Briggs type scales. *Psychological Reports*, 55, 568.
- Wagner, R.J., & Weigand, R.J. (2006). *Measuring results of MBTI type training: ROI in action*. Palo Alto, CA: Consulting Psychologists Press.
- VanSant, S. (2003). *Wired for conflict: The role of personality in resolving differences*. Gainesville, FL: Center for the Applications of Psychological Type.
- Walck, C.L. (1992). Psychological type and management research: A review. *Journal of Psychological Type*, 24, 13–23.
- Wang, J., & Wang, G.G. (2006). Exploring national human resource development: A case of China management development in a transitioning context. *Human Resource Development Review*, 5(2), 176–201.
- Werner, J.M., & DeSimone, R.L. (2006). *Human resource development* (4th ed.). Cincinnati, OH: Thomson/Southwestern.
- Williams, R.G., & Deal, T.E. (2003). *When opposites dance*. Palo Alto, CA: Davies-Black.
- Yeakley, F.R. (1983). Communication style preferences and adjustments as an approach for studying effects of similarity in psychological type. *Research in Psychological Type*, 5, 30–48.

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References

- Allen, J., & Brock, S.A. (2000). *Health care communication and personality type*. London: Routledge.
- Barr, S.A., Church, A.H., & Waclawski, J. (2000). The right relationship is everything: Linking personality preferences to managerial behaviors. *Human Resource Development Quarterly*, 11(2), 133–157.
- Bayne, R. (2004). *Psychological types at work: An MBTI perspective*. London: Thomson.
- Bayne, R. (2005). *Ideas and evidence: Critical reflections on MBTI theory and practice*. Gainesville, FL: Center for Applications for Psychological Type.
- Benfari, R.C. (1999). *Understanding and changing your management style*. San Francisco, CA: Jossey-Bass.
- Bolman, L.G., & Deal, T.E. (2003). *Reframing organizations: Artistry, choice, and leadership*. San Francisco, CA: Jossey-Bass.
- Bridges, W. (1992). *The character of organizations: Using Jungian type in organizational development*. Palo Alto, CA: Consulting Psychologists Press.
- Bureau of Labor Statistics. (2005). Table 2. Employment by major occupational group, 2004 and projected 2014. Retrieved August 15, 2006, from www.bls.gov/news.release/ecopro.htm.
- Campbell, S., & Samiec, E. (2005). *5-d leadership: Key dimensions for leading in the real world*. Mountain View, CA: Consulting Psychologists Press.
- Carskadon, T.G. (2002). Celebrating our 25th anniversary: A grand synopsis of 400 studies in psychological type. *Journal of Psychological Type*, 60, 1–64.
- Cooper, B., Gibbons, T., & Handyside, J. (2002). *Team working wheel*. Team Management Systems. www.tms.com.au/
- Curd, J., Dent, F., & Carr, M. (2005, January). Development challenges: Looking at the future. *Training Journal*, pp. 36–40.
- Fields, M.U., & Reid, J.B. (2006). *Shape your program: Tips, teasers, & thoughts for type trainers*. Gainesville, FL: Center for Applications of Psychological type.
- Fleener, J. (1997). The relationship between the MBTI and measures of personality and performance in management groups. In C. Fitzgerald & L.K. Kirby (Eds.), *Developing managers* (pp. 115–138). Palo Alto, CA: Davies-Black.
- Garavan, T.N., Barnicle, B., & O'Suilleabhain, F. (1999). Management development: Contemporary trends, issues and strategies. *Journal of European Industrial Training*, 23(4/5), 191–211.
- Gardner, W.L., & Martinko, M.J. (1996). Using the Myers-Briggs Type Indicator to study managers: A literature review. *Journal of Management*, 22(1), 45–83.
- Haley, C.V., & Pini, R. (1994). Blazing international trails in strategic decision-making research. In *Proceedings of the Myers-Briggs Type Indicator and Leadership: An international research conference* (p. 22). College Park, MD: National Leadership Institute.

- Haley, U. (1997). The MBTI and decision-making styles. In C. Fitzgerald & L.K. Kirby (Eds.), *Developing managers* (pp. 187–224). Palo Alto, CA: Davies-Black.
- Hall, C.S., & Norby, V.J. (1973). *A primer of Jungian psychology*. New York: Mentor Books.
- Hamilton, E. (1988). The facilitation of organizational change: An empirical study of factors predicting change agents' effectiveness. *Journal of Applied Behavioral Science*, 24, 37–59.
- Hammer, A.L., & Huszycz, G.E. (1996). Teams. In A.L. Hammer (Ed.), *MBTI applications: A decade of research on the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press.
- Harris, H., & Kumra, S. (2000). International management development: Cross cultural training in highly diverse environments. *Journal of Management Development*, 19(7), 602–614.
- Hirsh, E., Hirsh, K.W., & Hirsh, S.K. (2003). *MBTI teambuilding program: Leader's resource guide* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Hirsh, S.K., & Kise, J.A.G. (2001). *Using the MBTI tool in organizations: Leader's resource guide* (3rd ed.). Palo Alto: Consulting Psychologists Press, Inc.
- Huitt, W.G. (1992). Problem solving and decision making: Considerations of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type*, 24, 33–44.
- Huszycz, G.E. (2004). *Tools for team leadership*. Palo Alto, CA: Davies-Black.
- Jung, C.G. (1946). *Psychological types* (trans. by H. Godwin Baynes). New York: Harcourt Brace.
- Kerin, R.A., & Slocum, J.W. (1981). Decision making and acquisition of information: Further exploration of the Myers-Briggs Type Indicator. *Psychological Reports*, 49, 132–134.
- Kirby, L.K., & Barger, N.J. (1998). Uses of type in organizations. In I.B. Briggs Myers, M.H. McCaulley, N.L. Quenk, & A.L. Hammer, *MBTI manual* (3rd ed.) (pp. 367–384). Palo Alto, CA: Consulting Psychologists Press.
- Kirby, L.K., Barger, N.J., & Pearman, R.R. (1998). Uses of type in organizations. In I.B. Briggs Myers, M.H. McCaulley, N.L. Quenk, & A.L. Hammer, *MBTI manual* (3rd ed.) (pp. 325–365). Palo Alto, CA: Consulting Psychologists Press.
- Mabey, C. (2001). Developing managers in Europe: Policies, practices, and impact. *Advances in Developing Human Resources*, 6(4), 404–427.
- Mason, R.O., & Mitroff, I.I. (1973). A program of research on management information systems. *Management Science*, 19, 475–487.
- McCall, M.W., Lombardo, M.M., & Morrison, A.M. (1988). *The lessons of experience: How successful executives develop on the job*. Lexington, MA: Lexington Books.
- McCaulley, M.H. (2000). Myers-Briggs Type Indicator: A bridge between counseling and consulting. *Consulting Psychology Journal: Practice and Research*, 52(2), 117–132.
- McCrae, R.R., & Costa, P.T. (1989). Reinterpreting the Myers-Briggs Type Indicator from the perspective of the five-factor model of personality. *Journal of Personality*, 57(1), 18–40.
- Mitroff, I.I., & Kilmann, K.H. (1975). Stories managers tell: A new tool for organizational problem solving. *Management Review*, 64(7), 18–28.