

Full Length Research Paper

The development and validation of a personality instrument to increase collaboration

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Accepted 2 April, 2008

Understanding personality profiles can be helpful in working relationships. Situations such as co-teaching frequently pair individuals in teamwork. Turf and personality conflicts between professionals can be destructive and impede goal attainment. The Myers-Briggs Type Indicator (MBTI) is a personality measure that is based on Jung's theory of psychological types and has been established as having reasonable construct validity. The Richardson Inventory of Personality Types (RIPT) is likewise based on Jungian theory and contrary to the MBTI, utilizes a non-forced format and can be administered in a significantly reduced amount of time. The present study is a psychometric evaluation between the MBTI and the RIPT instruments. Both were administered to 210 participants enrolled in special education and speech/language and communication disorders courses at a state university. Results provided support for the construct validity and reliability of the RIPT and suggest utility in promoting understanding of personality profiles useful in situations requiring collaboration.

Key word: Personality/Collaboration

INTRODUCTION

Examining personality profiles for effective collaboration

Becoming aware of one's own personality type and the personality type of others can be helpful in developing intra-personal and inter-personal growth. Personality identification has been used for many purposes in various organizations; to forecast a worker's ability to fill certain roles, to establish harmonious relationships, to determine team effectiveness, and to predict future behavior (Barbian, 2001). Individuals with opposite personality preferences can work together to achieve common goals when they understand that the mixture of strengths can contribute to the job. One way that companies and academic institutions have attempted to increase productivity is through building teams. Varvel, et al. (2004) found

that individuals who were trained on the type of personality of team members were helped to improve communication, trust, and interdependence in spite of differences. Briggs, Copeland and Haynes (2006) propose that a heterogeneous mix is actually preferable in most organizations. In their study of accountants, they suggest that many corporate collapses can be traced to a skill/personality mismatch of workers. Application of personality type knowledge has been used in many areas in society such as in career guidance, managing employees, counseling and in teacher education. Thornton, et al. (2005) report that new teachers leave the profession at an alarming rate and that 50% leave the profession within five years of their first job. These authors recommend that personality type research be expanded to study both measures of satisfaction and measures of long-term success.

In various educational circles, collaboration among colleagues is encouraged. Collaboration is a central com-

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ponent in promoting partnerships to improve student success (Buddy, 2007). The concept of co-teaching has created a service delivery model whereby two teachers, usually a teacher of general education and a teacher of special education, can work together to teach all types of students. Inclusion of students with disabilities in general education classrooms requires a willingness of special and general educators to maximize the potential of all students (Friend and Cook, 2007). In many instances, compatibility between individuals is frequently hindered by various barriers such as personality conflicts caused by faulty perceptions of each other. A personality assessment can be used to assist educators to be more successful in the classroom and beyond. This knowledge of personality types can be useful in developing strategies for more effective interactions, smoother communications, and more successful relationships. Compatibility can be achieved when colleagues are willing to negotiate and accommodate to differences, in philosophies, values, and behavior. Through an understanding of differences diversity can be appreciated instead of posing a threat. Assessing personality types however, should be considered as a method towards establishing compatibility rather than as a tool to stereotype people or as a justification for certain behaviors.

Personality theory

The personality theory of Jung (1971) assumes that people are different from each other in functional types consisting of pairs of opposites. The first pair describes the way people obtain their energy. Some people are energized by interacting with others and are tuned to the outer world of events. Others are more preoccupied with the inner self and are energized by their own thoughts and ideas. These two extremes are termed Extraversion (E) and Introversion (I). The second pair in Jung's theory relates to the way individuals perceive and acquire information. These avenues of acquisition are termed Sensing (S) and Intuition (N). Individuals predominant in the Sensing orientation carefully examine information and employ all of their senses in their investigations. They are reality based and are thorough in examining the data they have carefully collected. Individuals who are intuitive (N's) rely on their instincts and trust their "sixth sense" to gather information. Two modes of judgment and methods of reaching decisions are labeled Thinking (T) and Feeling (F). Thinkers are objective, analytic and logical, and consider facts in reaching conclusions. They are able to suspend their personal feelings when they logically resolve a predicament. In contrast, Feelers are subjective and considerate of affective outcomes to specific situation. Feelers consider how their decisions will impact others.

Myers and Briggs (1987) elaborated on Jung's theory by adding the Judgment/ Perception polarities. These

functions indicate the manner in which people interact with the environment. Judgers (J) prefer an organized and stable environment, and strive to regulate and control their lives. Whereas, Perceivers (P) are flexible and spontaneous and prefer to stay open to opportunities as they unfold.

The MBTI Instrument

The Myers Briggs Type Inventory (MBTI) consists of forced-choice questions that represent each of the four opposite functions. Numerous researchers have investigated the construct validity and reliability of the instrument. Cohen, Cohen, and Cross (1981) supported the construct validity of the MBTI scales of Extraversion/Introversion (E/I), Sensing/Intuition (S/N), and Thinking/Feeling (T/F), whereas, that of Judging/Perceiving (J/P) was not supported. Bradway (1964) used a direct approach to measure construct validity by asking Jungian analysts to type themselves and to compare their self-typing to their MBTI scores. The results were significant on the E/I scale, the S/N scale, and the T/F scale. No comparisons were made on the J/P scale because the respondents did not type themselves on this trait.

Although reliability data of the MBTI has been interpreted positively in several studies (Murray, 1990; Tzeng, 1991), some reviewers remain skeptical as to the utility of the MBTI. Pittenger (1993) refers to studies which indicate that as many as 50% of the people changed some aspects of their type preferences in test-retest reliability analysis. He attributes this discrepancy to the MBTI's absolute classification scheme. As to the validity of the MBTI, he concludes that there is no evidence that the MBTI reflects the stable and unchanging personality traits that are claimed to be measured by this test. In addition, the 16 unique categories in which all people can be placed are not supported. Nevertheless, the instrument has gained popularity in educational applications as well as in career and marriage counseling. Jackson et al. (1996) noted that 1.5 to 2 million individuals complete it each year and that more than 3 million copies were sold in 1993.

Purpose of the study

Several alternative personality measures have been developed and correlated to the MBTI to determine concurrent and construct validity (Kier and Thompson, 1997; Parker and Mills, 1998). Dewald (1989) examined the relationship between the MBTI and the Herrmann Brain Dominance Instrument (HBDI). He concluded that the relationship between the MBTI and the HBDI provided support for the theoretical constructs of both instruments. In their technical review of the MBTI, Denham and

and Morrison (2002) concluded that there is strong evidence for the reliability and validity of the instrument and discussed the uses of the inventory for improving management practices, teaching, learning, career development, and relationships. King et al. (1999) conducted a score validation and elaboration of Jungian personality measures by comparing the Personal Preference Self-Description Questionnaire (PPSDQ) to the MBTI. The data indicated that the PPSDQ yielded results comparable to those from the MBTI. In an earlier study of the PPSDQ by Thompson and Stone (1994), the results were favorable regarding three of the four constructs. The researchers concluded that the fourth dimension (Judging-Perceiving) needed additional items to measure the construct.

The purpose for developing the RIPT was to determine the validity of the instrument and to expand on an assessment model of personality type based on Jungian concepts which could be used to approximate type preferences in a relatively short period of time. Three research questions were addressed.

1. Do the RIPT scores differentiate the four factor structure (E/I Extravert/Introvert, S/N Sensing/Intuiting, T/F Thinking/Feeling, and J/P Judging/Perceiving)?
2. What is the concurrent validity of the RIPT with the MBTI?
3. What is the percentage of agreement in terms of classification between the RIPT and MBTI?

METHOD

Participants

A cluster sampling was used to select a random sampling from three clusters within the College of Education namely: the Department of General Education, the Department of Special Education, and the Department of Speech/Language and Communication Disorders. The selected participants included 210 graduate and undergraduate students. Twenty-one participants were pursuing a graduate degree in Special Education, 47 were enrolled in a Speech and Language undergraduate program, 12 were working on a graduate program in Communication Disorders, and 102 students held undergraduate degrees in general education and were working toward certification in special education. Twenty-eight participants held degrees in a field other than education and were enrolled in a special education teacher alternative program. A majority (156) held teaching positions in Special Education. Of the participants 180 were female and 30 were male.

Instrumentation

The MBTI has received criticism because of its forced-choice response format (ipsative) and for not recognizing that some people may have neutral preferences on some of their responses (King et al., 1999). In addition, the MBTI uses dichotomous scoring rather than continuous scores and differential gender weighting of item response (Vacha-Haase and Thompson, 2002). The Richardson Inventory of Personality Type (RIPT), unlike the MBTI, uses a non-

Table 1. Cronbach reliability estimates for RIPT.

Scale	Reliability estimate
Extravert/Introvert	.692
Sensing/Intuiting	.644
Thinking/Feeling	.292
Judging/Perception	.752

forced format (normative) and does not differentiate between genders. The RIPT instrument consists of 32 statements and 8 popular sayings reflecting each of the four psychological types. Content reviews of the items were examined in a pilot study involving psychology graduate students who were knowledgeable in personality theory and familiar with the Myers-Briggs inventory. The overall degree of agreement to which they measured the same items was 89%. To determine construct validity, participants of the study rated statements in the RIPT that best described them on a five point Likert scale response format. For example, Item 2 is presented as "It doesn't matter to me whether I am working with people. I am happy working alone" and is used to measure the E/I dimension. Half the RIPT items are designed to measure one of the four functions (ENFP) and the other half measures its opposite function (ISTJ). The respondents were asked to rate 8 popular sayings to the degree to which each sayings appealed to them. The sayings also purported to measure the 4 functions and their opposites. For example it is expected that an introverted person (I) would rate "No man (woman) is an island" high while an extraverted person (E) would give a high rating to the saying "Familiarity breeds contempt." The scoring table provided columns representing each of the functions and its opposite. The respondents were asked to write the weight they assigned to each statement in the column beside the specified number and to determine the total sum of each column. Their preference was the one with the highest score. In case of a tie, they were directed to select a specific letter denoting the function. For example: If E or I resulted in a tie the participants had to select I. This determination is similar to the MBTI rule for determining tie preferences. The average time to complete and score the RIPT was 18 min. Cronbach reliability estimates for each of the four categories of questions ranged from .292 to .752 and are contained in Table 1.

RESULTS

Do the RIPT scores differentiate the four factor structure (E/I Extravert/Introvert, S/N Sensing/Intuiting, T/F Thinking/Feeling, and J/P Judging/Perceiving)?

To determine the underlying structure of the RIPT instrument, factor analysis with principal component extraction and varimax rotation was used. Additionally, working with the assumption that the RIPT contains the four underlying factors which correspond to the components of Jungian theory, a four factor model was specified. Since each component is composed of two scales that are deemed to be opposites, it was expected that each factor would contain positive loadings relative to one scale and negative loadings relative to that scale's opposite.

The results of the factor analysis are presented in ta-

Table 2. Varimax rotated factor loadings for four factor model.

RIPT item #	Sub-scale	Factor 1	Factor 2	Factor 3	Factor 4
q32	J	.778			
q16	J	.690	-.237		
q24	J	.685			
q40	J	.583	.118		
q28	S	.541	-.123		
q30	T	.480			.141
q8	J	.464	-.289	.155	
q15	P	-.461	.297		
q6	T	.442	-.230	-.107	.286
q36	S	.334			-.222
q20	S	.304	-.124		
q3	N		.556		-.161
q31	P	-.356	.552	.105	.146
q35	N		.545		
q39	P	-.137	.508		
q19	N		.490		
q11	N		.458	-.104	.449
q27	N	-.164	.457		
q4	S	.198	-.452		.304
q23	P	-.133	.444	.157	.171
q7	P	-.212	.424	.268	.251
q22	T	.205	-.378		.128
q37	F		.357		
q9	E		.109	.765	
q10	I			-.716	.237
q17	E	.110		.700	
q18	I			-.659	
q26	I		-.136	-.654	.293
q1	E		.184	.543	.205
q2	I	.137	.186	-.496	-.149
q25	E	.127	.208	.353	.306
q13	F			-.119	.575
q12	S	.408	-.266	-.116	.468
q33	E			.257	.464
q5	F		.365		.433
q14	T	.319	.241	-.157	.411
q29	F	-.235	.220	.206	.377
q38	T	.247	.237		-.312
q21	F		.223	.193	.310
q34	I		.124		-.268

Note: Factor loadings with absolute values less than .10 were not displayed.

ble 2. The results for the first three factors generally support the expected pattern. The first factor shows positive loadings from items on the Judging scale and negative loadings from items on the Perceiving scale. Likewise, the second factor shows positive loadings from

items on the Intuiting scale and negative loadings for items on the Sensing scale, and the third factor has positive loadings from the Extravert items and negative loadings from the Introvert items. The final factor should have involved the Thinking and Feeling scales with opposite loadings from items on each of the scales. However, this pattern did not appear.

While the results of the factor analysis provide some evidence supporting the RIPT and its measurement of the four Jungian components, the ideal loading pattern did not emerge. The only factor that conformed to the ideal loading pattern was factor three. For this factor, the items that contributed the highest loadings were from both Extravert and Introvert scales with items from the remaining scales showing relatively low loadings. Although the first two factors displayed positive and negative loadings with respect to items from the appropriate scales, the loadings from each scale varied in magnitude (e.g., as expected, in factor one the Judging items had positive loading and the Perceiving scale items had negative loadings, but the magnitude of the loadings for the Perceiving items was much lower than the Judging items).

The ideal loading pattern (as illustrated in factor three with high but opposite loadings from both scales) would seem logical only if it is assumed that the four scales defined in Jungian theory deal with mutually exclusive components of personality. A closer look at the factor loadings in the first two factors suggests that there may be a common construct among items from the Judging, Sensing, and Thinking scales and the Intuiting, Feeling, and Thinking scales, respectively. To further examine this issue, the data was reanalyzed using a three factor model. The results of this analysis are presented in Table 3 and identify one factor common to the Judging, Sensing, and Thinking scales, one factor common to the Intuiting, Feeling, and Thinking scales, one factor common to the Extravert and Introvert scales.

As a result of the lack of exclusivity among the constructs identified in the Jungian theory and included in the RIPT, it is unlikely that a four factor model would produce four distinct factors with each factor representing one of the four Jungian components. The results from the first analysis provide evidence that the RIPT addresses three of the four components.

What is the concurrent validity of the RIPT with the MBTI?

The correlations between the scores provided by the MBTI and RIPT are contained in Table 4. Of the 8 correlations reflecting validity, those for the E/I/J/P scales indicated a decent level of concurrent validity ($r \geq .589$). The remaining scales demonstrated relatively low correlations suggesting a low level of concurrent validity.

Table 3. Varimax rotated factor loadings for three factor model.

RIPT item #	Sub-scale	Factor 1	Factor 2	Factor 3
q32	J	.712		
q16	J	.679		
q24	J	.677		
q12	S	.587		
q6	T	.551		
q28	S	.517		
q8	J	.498		
q15	P	-.489		
q40	J	.481		
q30	T	.467		
q4	S	.397		
q22	T	.326		
q20	S	.301		
q36	S			
q11	N		.621	
q5	F		.553	
q31	P	-.418	.531	
q7	P		.513	
q23	P		.469	
q39	P		.452	
q35	N		.450	
q14	T	.354	.425	
q29	F		.422	
q19	N		.417	
q13	F		.406	
q25	E		.389	.301
q21	F		.385	
q27	N		.383	
q3	N		.340	
q37	F			
q33	E			
q9	E			.743
q10	I			-.741
q26	I			-.687
q17	E			.684
q18	I			-.664
q1	E		.328	.502
q2	I			-.469
q38	T			
q34	I			

Note: Factor loadings with absolute values less than .30 were not displayed.

What is the percentage of agreement in terms of classification between the RIPT and MBTI?

Table 5 provides the results of cross tabulations between

Table 4. Correlations between scores on the MBTI and RIPT.

Scale	Correlation
Extravert	.593
Introvert	.674
Intuiting	.272
Sensing	.343
Thinking	.297
Feeling	.463
Perceiving	.589
Judging	.634

n MBTI based personality classification and RIPT based personality. The percent of agreement across the four categories of classification ranged from 83.3% (Judging/Perceiving) to 63.3% (Sensing/Intuiting). Further examination of the results shows that the RIPT is able to classify Extraverts (as identified by the MBTI) with a misclassification of only 5.5%, Perceiving with a misclassification rate of 10.7%, Judging with a misclassification of 20.0%, and Feeling with a misclassification of 11.0%. However, the misclassification rates were 35.6, 31.1, 39.7, and 42.4% for Introverts, Intuiting, Sensing and Thinking (as identified by the MBTI).

If it is assumed that the MBTI provides an accurate classification of personality, then it would appear that the RIPT is able to consistently classify Extraverts, Perceiving, Judging, and Feeling. It also appears that the RIPT is not able to consistently identify Introverts, Intuiting, Sensing, and Thinking. However, treating MBTI classification as an absolute is not practical since it is likely that the MBTI will classify individuals as Introvert when the correct classification should have been Extravert. Therefore, it is also possible the RIPT is correcting some of the misclassification based on the MBTI. This is something that needs further examination.

Overall, personality classification based on the RIPT seems to be comparable to that based on the MBTI with the percentage of agreement exceeding 75% on three of the four scales. Additionally, the RIPT provides a measure of personality that is more time efficient than the MBTI with an average time to complete that is less than half of the MBTI ($M = 10.8$, $M = 22.6$ min). The RIPT also provides researchers with an easily accessible instrument that is on a normative scale.

DISCUSSION

Evaluating personality preference is certainly far from being truly empirically scientific. Similar to the construct of intelligence, the construct of personality is difficult to measure. It may include a scope beyond the 16 dimen-

Table 5. Classifications based on RIPT and MBTI instruments.

RIPT	MBTI		% of misclassification
	Extravert	Introvert	
Extravert	103 (49.0%)	36 (17.1%)	20.0%
Introvert	6 (2.9%)	65 (31.0%)	
	Sensing	Intuiting	36.7%
Sensing	82 (39.0%)	23 (11.0%)	
Intuiting	54 (25.7%)	51 (24.3%)	
	Thinking	Feeling	
Thinking	53 (25.2%)	13 (6.2%)	24.8%
Feeling	39 (18.6%)	105 (50.0%)	
	Judging	Perceiving	16.7%
Judging	108 (51.4%)	8 (3.8%)	
Perceiving	27 (12.9%)	67 (31.9%)	

sions proposed by the MBTI. In addition, calculating p values contains inherent problems. Thompson (2002) reminds us that because p values in a given study are a function of several research studies, features may be influenced by the size of the sample and the size of the study effect. Nevertheless, the study suggests that the RIPT can be useful in measuring certain aspects of personality preferences. Education is a relational profession that involves interacting and working with others. Misunderstandings can cause barriers to collaboration. In addition to understanding the type of co-workers, results of the RIPT can be instrumental in guiding teachers to understand their students' temperament and to accommodate to their differences (Meisgeier and Richardson, 1996). This understanding is also helpful in planning and implementing instructional modification and behavioral management strategies (Coombs-Richardson and Meisgeier, 2001).

The RIPT is self-scoring and describes preferences as indicated by the responses. The MBTI has well-documented reliability and validity with numerous studies conducted over a forty-year period, whereas the RIPT has, so far, been limited in its implementation. In addition, we must exert caution in using a test to label people. We suggest that the RIPT be used as a screening instrument to facilitate team-building and collaboration.

Implications and recommendations

Understanding personality type and patterns of behavior can provide a useful framework for collaboration. The

relationship between organization workers is crucial in increasing the likelihood of goal achievement. We are more liable to flex our behaviors when we understand and tolerate the behaviors and actions of others. We can increase our intra-personal intelligence when we step outside of ourselves and recognize the positives in other people's personalities.

The Richardson Inventory of Personality Type (RIPT) may be a useful tool in pre-service and in-service teacher programs. Individuals must bear in mind however, that all personality types are equally valuable and that the results of an affective instrument are merely output of what the respondents' input. Respondents of a personality measure must become knowledgeable of the constructs of the instrument and guided in assessing the results to determine whether the test accurately measured their preference. Aside from using the results to increase collaboration, the respondents can use the information to enhance their public relations skills in every interaction, at home as well as at work.

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