

Team Management Profile Questionnaire: Validity

What is Validity?

The measurement of all psychological phenomena, like work preferences, confronts us with problems over and above those we would encounter in measuring phenomena that exist in the physical world. Such concepts as personality, ability, attitudes and cognitive style cannot be measured *directly* as we would measure height of buildings, total sales or marketing expenditure. At best, when we measure psychological phenomena we obtain an 'indication' of what it is that we are measuring. As Carmines and Zeller (1979) state:

... From an empirical standpoint, the focus is on the 'observable response' - whether it takes the form of a mark on a self-administered questionnaire, the behavior recorded in an observational study, or the answer given to an interviewer. Theoretically, interest lies in the 'underlying observable' (and directly unmeasurable) concept that is represented by the response...

Relating this back to our present problem, the Team Management Profile Questionnaire could be described, more correctly, as an 'indicator' of work preferences.

Two questions that are often asked when assessing the adequacy of the Team Management Profile Questionnaire are 'How well does the Team Management Profile Questionnaire minimize error in measuring work preferences?' and 'How well does the score measure what it has been designed to measure?' The first question is that of *reliability*, the second is that of *validity*.

Put in another way, *reliability* concerns the association between different measurements of the same concept using the same indicator. *Validity*, on the other hand, concerns the association between the indicator and the concept (in this case, role preferences).

When we move from assessing reliability to the validity of an indicator, we may use what we call 'external criteria'. External criteria are other indicators or more direct measures that have been found from past experiences and research to be strongly related to the concept we are trying to measure.

To the extent that the indicator shows a strong and consistent relationship to appropriate external criteria, we say that it has some degree of validity.

For an indicator of personality, a researcher may use peer ratings, other personality tests, personnel files, or assessment center ratings as external criteria. For the personality test to demonstrate validity, a strong relationship between external criteria and the indicator is required. Of course this estimate of the relationship is dependent on the accuracy with which we measure these external criteria and the extent to which they themselves represent the concept of interest. It is for this reason that careful selection and measurement of criteria are vital in validity studies. Often multiple criteria are used and various complex methods have been used to combine them.

The types of criteria we would use to assess the validity of the Team Management Profile Questionnaire would be such things as a managers' own assessment of their work preferences, their colleagues' ratings of their work preferences, biographical records, personnel files and other measures of work preferences.

The process of validation is therefore *long-term*. An effective validation program is based on the scientific method. Experiments are designed and hypotheses formulated regarding the relationship of an indicator to certain criteria, in certain situations, and among certain subjects. Extraneous factors are controlled, both experimentally and statistically. Gradually researchers build up a feel for, or a 'picture' of, the concept that the indicator is tapping and its relationships to other phenomena. Cronbach and Meehl (1955) refer to this as positioning the concept within the 'nomological network'.

Reliability is important when we discuss validity as it acts as an upper limit on the validity we can achieve. This is because an instrument cannot have a stronger relationship to anything than itself. The first requirement of high validity therefore is minimal random measurement error or, in other words, high reliability.

Another term we could use in describing validity is 'meaningfulness'. An indicator with high reliability may have minimal error but, until we establish the relationship between itself and external criteria of

which we know more, it is hard either to understand or to interpret the output. The more we know about the relationships between Team Management Profile Questionnaire scales and other concepts, the more meaningful and useful the outcome becomes.

Face Validity

Face validity is the extent to which a scale or group of scales 'makes sense' to observers and test users. As far as the Team Management Profile Questionnaire is concerned people like to be convinced that a questionnaire is 'sensible' before they complete it. When users feel comfortable with a questionnaire, they are more likely to feel positive about the process that the tests are intended to facilitate. If this is the case then we can say the instrument has high face validity.

Of more importance, though, is the extent to which the feedback report – the Team Management Profile – is acceptable to the test respondent. In management development it is critical that any feedback based on an instrument has high face validity otherwise the data will be rejected and the instrument denounced, even though it may have high reliability and even predictive validity.

Much care was taken to ensure that high face validity was obtained on both the Team Management Profile Questionnaire and the Team Management Profile. This was achieved in an iterative process with many focus groups. A typical procedure was as follows:

- 1) A group of at least 8 people with the same major role preference (say ECAF) was assembled and a preliminary feedback report presented to them. They then indicated which paragraphs were accurate for them, which were dubious and which were inaccurate.
- 2) Based on this information, a new version of the relevant Profile was produced and tested on a new focus group.
- 3) The process was repeated until more than 80% face validity was indicated by the subsequent focus group.
- 4) Steps 1) to 3) were repeated for each of the 16 role preferences.
- 5) After the instrument was commercially released subsequent changes to the Profiles were made over a two-year period when consistent criticism was received about any part of a particular report.

Traditionally, face validity is seen as the least important form of validity, particularly as far as the test is concerned. Test developers often try to obscure the concepts behind the test that may be important in situations where the test is used for selection purposes or for psychiatric assessment. However in the realm of management development face validity is usually the most important form of validity.

Predictive Validity

Predictive validity is the ability of a measure to predict future criteria. This form of validity is important when a test is used for selection purposes. If the Team Management Profile Questionnaire was being used to predict the later success of a group of job applicants, we would have to prove that it is related to the criteria for success that were chosen at the recruitment stage (e.g. 'value of sales' or 'high performance ratings'). Predictive validity studies are difficult to administer as they involve a long-term research design which comes together with concomitant problems such as locating subjects at different times in the future. Additionally the criteria for success can change, making the study invalid.

The Team Management Profile Questionnaire was not designed as a predictive instrument and no claims are made about its predictive validity. The instrument is designed primarily for personal and team development purposes.

Criterion-related Validity

Criterion-related validity is the extent to which a test is related to external criteria. One example of this is given in the *TMPQ: Worldwide Database Functional Area Analysis* section of this manual where the major role preferences are compared to functional job areas. If we have defined a role as say, Concluder-Producer and indicated that people with this preference enjoy working in a practical way producing results according to a plan, then we would expect there to be a high number of people with these characteristics working in production jobs. This would be an example of criterion-related validity. Other

examples might be the relationship between the instrument and personal appraisal results or peer ratings of the same concepts.

Construct Validity

Construct validity is a particular case of criterion-related validity and measures the extent to which a test or scale relates to other theoretical concepts (i.e. constructs) which have been proved by other studies to be valid. By studying the relationships of a test to many others, researchers can get a better feel for the 'real' meaning of a scale. To the extent that one construct is related to another that it should be related to, and not to others that it should not be related to, we can say that the test has good construct validity. The relationship between the Team Management Profile Questionnaire and other instruments such as the Myers-Briggs Type Indicator® (MBTI)¹, the Honey-Mumford Learning Styles and the Belbin Team Roles are obvious candidates for construct and/or criterion-related validity.

Concurrent Validity

Concurrent Validity establishes the ability of a scale to relate to other scales or measures that are taken at the same time. Therefore both criterion-related and construct validity may be examples of concurrent validity, provided simultaneous administration of the tests was undertaken.

What is Utility?

While reliability examines the relationship between an indicator and itself, and validity the relationship between an indicator and external criteria, utility examines the relationship to *specific applied criteria*. While both utility and validity assess external criteria, the emphasis of validity is on 'meaningfulness' and utility on 'usefulness' (Messick, 1980). While reliability asks how much error is contained in the scores, and validity asks what the scores mean, utility asks *what can the scores do for me?*

Utility is a more applied and practical concept than validity which is more theoretical in nature. Unlike validity, the time-scale is usually shorter, criteria are fewer, and results are more sample and situation-specific.

While reliability is an essential component of both validity and utility, there have been instances of a test or indicator having great utility, but lacking any validity or meaning. A certain test proved to be a fine predictor of success among insurance salespeople but studies have yet to indicate why it succeeds. This is sometimes the case when instruments are developed totally empirically. These instruments can often be very useful in specific situations but are difficult to transfer to other situations. However, while such instances do exist, an instrument with high utility is more likely to have high validity as well.

The kind of questions we may ask in assessing the utility of the Team Management Profile Questionnaire include:

- How useful is the Team Management Profile Questionnaire in selecting managers to staff the finance function in my organization?
- Can the Team Management Profile Questionnaire predict the functional areas in which my younger managers may succeed, even though they know relatively little of their interests and abilities at this stage?
- How useful is the Team Management Profile Questionnaire in predicting satisfaction of female accountants?
- Can the Team Management Profile Questionnaire help in selecting people for the taskforce on productivity?
- Can Team Management Profile Questionnaire scores explain the reasons for the poor working relationships between Bob and John?

¹ ® Myers Briggs Type Indicator and MBTI are registered trademarks of Consulting Psychologists Press Inc. Oxford Psychologists Press Ltd has exclusive rights to the trademarks in the UK.

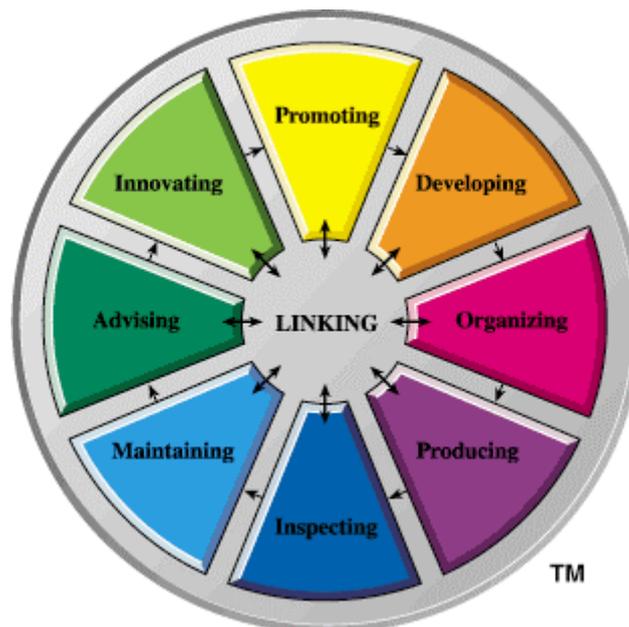
- Can the Team Management Profile Questionnaire help explain why the R&D section has lots of good ideas but has trouble getting them accepted and implemented by other parts of the organization?

Structural Validity of the Types of Work Wheel

The Types of Work Wheel (Figure 1) identifies eight types of work that can be represented in a two-dimensional 'map' with 'Exploring' at the top, opposed by 'Controlling' at the bottom, and 'Advising' on the left-hand side, opposed by 'Organizing'. This Wheel was developed by feeding back various representations or 'maps' of managerial work to differing groups of managers and assessing how realistic and useful the 'map' was to these target groups.

The Team Management Wheel was then developed. The Wheel has a high degree of face validity for management practitioners and their advisers alike. In an attempt to provide objective data to confirm the structural validity of the Types of Work Wheel empirically, a criterion related validity study was conducted in which 16 MBA students were asked to rank 16 types of managerial work in terms of their similarity (Davies, 1987a). These similarity ratings were then analyzed using a multi-dimensional scaling technique (MDS) which reduces such ratings to a dimensional space. Stress values indicated that the two-dimensional configuration was the most appropriate for the data set and the resultant map bears some similarity to the Types of Work Wheel. Indeed when we overlay the elements as mapped by the MDS program onto the Types of Work Wheel/Team Management Wheel, the meaning of the relationships between the job titles becomes clearer.

Figure 1. The Margerison-McCann Types of Work Wheel



This study is indicative only and represents the views of a very low sample size. Therefore the results should be interpreted with caution. Nonetheless, there are interesting relationships between the job titles and the Types of Work Wheel functions indicating a reasonable level of criterion related validity. A study such as this helps confirm the structural validity of the Types of Work model.

Figure 2. Two-dimensional map of managerial work areas derived from similarity rating data (superimposed on the Team Management Wheel) (n=16)



Team Management Profile Questionnaire Scores compared with Preferred and Actual Work Areas

One of the first tasks in assessing the validity of Team Management Profile Questionnaire scales was to examine their relationship to the types of work represented on the Types of Work Wheel. Figure 3 in the *TMPQ: Development* section of this manual represents the way in which role preferences are related to the four work preference scales. As can be seen, two work preferences can be said to 'define' each role preference. For instance, Explorer-Promoters are Extrovert and Creative, Thruster-Organizers are Analytical and Structured, while Reporter-Advisers are Beliefs-oriented and Flexible. The aim of this research was to test whether the hypotheses arising from that Wheel could be confirmed empirically. Are people who prefer Promoting type work really more Extroverted and Creative than others in reality? To take another hypothesis, are people who prefer Inspecting work more Introverted and Practical?

In order to test the hypotheses, 281 full-time managers attending management education courses run by the Queensland Combined Schools or enrolled part-time in the MBA course at the University of Queensland, were asked to complete the Team Management Profile Questionnaire. They were then required to fill out a questionnaire that asked them first to rank the eight types of work from 1 to 8 in terms of their preferences. They were then asked to do the same thing again, but this time to reflect on the types of work they engaged in during their normal working day (Davies, 1987b).

Each subscale of the Team Management Profile Questionnaire was tested in its ability to discriminate between respondents' first major work preference and major work activity using analysis of variance. The results are presented in Table 1.

As can be seen, there is a definite relationship between work preferences and all Team Management Profile Questionnaire scales. The *F* values range from a low of 2.85 (Analytical-Beliefs) to 12.80 (Practical-Creative). These results suggest that each of the four subscales are measuring something that relates to the type of work managers prefer.

The results for the type of work managers report as actually doing is not so clear cut. There is an effect for the Practical-Creative and Structured-Flexible scales, but the Extroversion-Introversion and Analytical-Beliefs subscales fail, in this sample, to discriminate significantly among types of work activities.

Table 1. *F* Scores resulting from analysis of variance of work preference and activity by Team Management Profile Questionnaire scales

Scale	Work preference	Work activity
Extroversion-Introversion	4.24**	1.58
Practical-Creative	12.80**	4.80**
Analytical-Beliefs	2.85*	1.90
Structured-Flexible	4.92**	3.78**

* $p < 0.01$; ** $p < 0.001$; All other *F* values not significant

To determine which scales contributed most to the explanatory power for each work area, the total sample was divided according to subjects' first work area preference and subjects' major work activity. Mean scores were then computed for each of the Team Management Profile Questionnaire scales (E-I, P-C, A-B and S-F) for each type of work. Mean scores were tested for significant differences using the post-hoc Newman-Keuls test.

In each of the Tables 2 to 7, means and standard deviations are presented for each of these preference and work activity groups for each scale. Significant differences between groups are indicated by an asterisk.

Extroversion - Introversion

Mean scores of work preference groups on the Extroversion-Introversion subscale ranged from -12.60 (Inspecting) to -8.25 (Producing), and 1.21 (Organizing), where Introversion is represented by negative scores and Extroversion by positive scores. While Promoting and Inspecting mean scores constituted the only significant difference, all scores suggest a relationship where those work areas in the north of the Team Management Wheel return the highest extrovert scores, while those at the bottom return the highest introvert scores.

The overall *F* for Extroversion-Introversion and actual work activity was not significant, so individual group differences were not investigated.

Table 2. Means, standard deviations, and Newman-Keuls test results for Extroversion-Introversion by first work preference

First work preference	Mean	SD	Newman-Keuls results
			Promoting
Innovating	-0.92	11.35	
Promoting	4.47	11.89	
Developing	-5.36	12.07	
Organizing	1.21	12.50	
Producing	-8.25	8.58	
Inspecting	-12.60	7.44	*
Maintaining	-6.75	11.35	
Advising	-2.55	14.35	

NOTE: Overall *F* = 4.24, *df* = 7/250, $p < 0.05$

Practical - Creative

The Practical-Creative subscale was able to discriminate significantly between the Promoting preference (-3.27) and Organizing (6.33), Maintaining (7.00), Producing (12.75) and Inspecting (13.60). Also, the Innovating preference returned a significantly higher mean score (-5.39) than both Producing (12.75) and Inspecting (13.60). These data show that the Practical-Creative subscale maps across the Types of Work Wheel from a point in the Innovating-Promoting sectors across to the Producing-Inspecting sectors.

Table 3. Means, standard deviations, and Newman-Keuls test results for Practical-Creative by first work preference

First work preference	Mean	SD	Newman-Keuls results	
			Innovating	Promoting
Innovating	-5.39	10.05		
Promoting	-3.27	10.82		
Developing	4.27	8.57		
Organizing	6.33	9.75		*
Producing	12.75	6.75	*	*
Inspecting	13.60	8.99	*	*
Maintaining	7.00	4.83		*
Advising	4.40	12.78		

NOTE: Overall $F = 12.80$, $df = 7/250$, $p < 0.05$

These relationships persisted when analyzing the major work activity. Those work activity areas with high mean 'creative' scores were Innovating, Promoting, and Developing, while those with the highest Practical mean scores were Organizing, Producing and Inspecting. Newman-Keuls tests revealed significant differences between Innovating (-9.00) and Organizing (4.97), Inspecting (3.94), Producing (3.88) and Advising (2.6).

Table 4. Means, standard deviations, and Newman-Keuls test results for Practical-Creative by major work activity

Major work activity	Mean	SD	Newman-Keuls results	
			Innovating	Promoting
Innovating	-9.00	11.63		
Promoting	-2.82	10.36		
Developing	-4.54	11.21		
Organizing	4.97	9.95		*
Producing	3.88	10.89		*
Inspecting	3.94	12.32		*
Maintaining	-0.67	8.34		
Advising	2.65	14.43		*

NOTE: Overall $F = 4.80$, $df = 7/233$, $p < 0.05$

Analytical - Beliefs

The Analytical-Beliefs scale returned the lowest overall F score for all subscales. This is reflected in the relative closeness of the mean scores in Table 5. The lowest scores on the scale were for Maintaining (5.75) and Inspecting (9.60) while the highest were for Developing (19.15). A significant Newman-Keuls test result was returned for the difference between Developing and Maintaining, indicating that the A-B measure maps across these sectors.

The overall *F* for Analytical-Beliefs when compared with the major work activity was not significant, so individual group differences were not investigated.

Table 5. Means, standard deviations, and Newman-Keuls test results for Analytical-Beliefs by first work preference

First work preference	Mean	SD	Newman-Keuls results
			Developing
Innovating	12.44	10.66	
Promoting	11.19	10.30	
Developing	19.15	6.64	
Organizing	14.33	9.26	
Producing	15.38	8.94	
Inspecting	9.60	4.93	
Maintaining	5.75	16.15	*
Advising	13.45	8.71	

NOTE: Overall *F* = 2.85, *df* = 7/250, *p* < 0.05

Structured - Flexible

Despite a significant overall *F* score, individual group differences for Structured-Flexible work preferences failed to reach significance. However, it is informative to note that the highest mean scores for this scale were Organizing (10.61), Producing (10.19) and Developing (8.67) while the lowest (more Flexible) scores were returned for Innovating (1.87), Inspecting (1.80) and Advising (2.80).

There were significant differences, however, when we turned to the major work activity of respondents. Again, subjects indicating Organizing (8.29), and Producing (8.02) as their major work activity returned the most Structured mean scores while Innovating (-2.64) and Promoting (-1.41) groups returned the most Flexible scores. Both Innovating (-2.64) and Promoting mean scores differed significantly from Organizing, Producing and Inspecting scores, while Innovating was also significantly different from Developing. The data indicates a mapping of the S-F construct across the Wheel from the Organizing-Producing sectors to the Advising-Innovating sectors.

Table 6. Means, standard deviations, and Newman-Keuls test results for Structured-Flexible by first work preference

First work preference	Mean	SD	Newman-Keuls results
Innovating	1.87	10.26	
Promoting	4.32	9.66	
Developing	8.67	8.85	
Organizing	10.61	10.17	
Producing	10.19	8.83	
Inspecting	1.80	7.79	
Maintaining	3.50	2.52	
Advising	2.80	12.64	

NOTE: Overall *F* = 4.92, *df* = 7/250, *p* < 0.05

Table 7. Means, standard deviations, and Newman-Keuls test results for Structured-Flexible by major work activity

Major work activity	Mean	SD	Newman-Keuls results	
			Innovating	Promoting
Innovating	-2.64	8.45		
Promoting	-1.41	11.34		
Developing	6.00	10.24	*	
Organizing	8.29	10.52	*	*
Producing	8.02	8.50	*	*
Inspecting	7.19	10.23	*	*
Maintaining	4.89	9.94		
Advising	5.12	11.17		

NOTE: Overall $F = 3.78$, $df = 7/233$, $p < 0.05$

The above results lend empirical support to an intuitive model that nevertheless can boast high managerial acceptance (face validity). Not only has it been demonstrated that there exists a significant, substantial relationship between the work preferences as measured by the Team Management Profile Questionnaire and preferred work area, but these relationships have, in the great majority of cases, occurred in the expected direction.

In two cases, that of Extrovert-Introvert and Analytical-Beliefs, this influence has not extended to the actual work on which managers were presently engaged. This is not a totally unexpected result. A common finding in vocational preference research is that there are more influences on vocational choice than preference alone. Just some of these are the economic situation, minimum educational standards, organization manpower policy and job opportunity.

Self-ratings and Assessment

One study examined the correspondence between subjects' Team Management Profile Questionnaire scores as one measure of work preferences and subjects' self-ratings and descriptions of their work behavior as one set of criteria. Additionally, associates of these subjects were also asked to rate and describe their colleagues' behavior. These were used as further criteria. As a second focus of the study, information was obtained from subjects and their associates regarding preferred work areas.

Twenty-seven Government service managers were approached to participate in this study. They were asked to complete the Team Management Profile Questionnaire, answer a personal questionnaire about their work likes and dislikes and distribute a similar one to their closest associate. Eighteen usable personal questionnaires and Team Management Profile Questionnaires, and fourteen associate questionnaires were eventually returned.

The mean age of the sample was 39 (SD=9.17), and four of the eighteen (22%) were females. There were seven (39%) engineers, seven (39%) consultants, and four (22%) accountants. Three of the engineers saw themselves as working in design, research and development, three as working in production, construction and control and one in the personnel field. While small, the sample represents a fairly heterogeneous group of managers working within the Queensland Public Service in Australia.

All subjects and their associates were asked to indicate on four bi-polar seven-point scales analogous to the four Team Management Profile Questionnaire subscales (E-I, P-C, A-B and S-F) their perception of subjects' work preferences. Short descriptions were provided for each pole of the four scales based on the explanations provided by Margerison and McCann (1985).

Table 8. Correlations between Team Management Profile Questionnaire, 'self' and 'associate' ratings of 18 Government service managers

	E-I	P-C	A-B	S-F
Team Management Profile Questionnaire scale scores and self ratings (n=18)	0.71**	0.73**	0.57*	0.62**
Team Management Profile Questionnaire scale scores and associate ratings (n=14)	0.32	0.28	-0.15	0.19
Self-ratings and associate ratings (n=14)	0.25	0.62*	-0.44	0.39

NOTE: * $p < 0.05$, ** $p < 0.01$

Table 8 provides Pearson product-moment coefficients between Team Management Profile Questionnaire subscale scores, self-ratings and associate ratings. While the four Team Management Profile Questionnaire-self coefficients are significant, this does not carry through to the Team Management Profile Questionnaire-associate relationship. Such a finding makes intuitive sense to the extent that people should be able to describe their preferences better than their associates. Also of interest is that associate ratings of Analytical-Beliefs preferences are negatively related to self or Team Management Profile Questionnaire ratings. The small number of subjects makes significant results hard to achieve here but indications are that some of the Team Management Profile Questionnaire-associate values may reach significance, given a larger sample.

Table 9. Comparison of Team Management Profile Questionnaire, 'self' and 'associate' ratings of 18 Government service managers

	Team Management Profile Questionnaire and 'self' (n=18)	Team Management Profile Questionnaire and 'associate' (n=14)	'Associate' and 'self' (n=14)
No difference in overall Profile	9 (50%)	1 (7%)	-
No difference in E-I	14 (78%)	11 (79%)	9 (64%)
No difference in P-C	15 (83%)	9 (64%)	10 (71%)
No difference in A-B	15 (83%)	8 (57%)	5 (36%)
No difference in S-F	15 (83%)	10 (71%)	9 (64%)
One preference change	6 (33%)	8 (57%)	6 (43%)
Two preference changes	2 (11%)	5 (36%)	7 (50%)
Three preference changes	1 (6%)	-	1 (7%)
Four preference changes	-	-	-

Table 9 shows that 50% of subjects were able to pick their work preferences as measured by the Team Management Profile Questionnaire perfectly; 83% reversed one or less of the preferences. When associates chose the work preference of the Government service managers this figure dropped to 64%.

As part of the personal questionnaire, subjects were asked what task or aspect of their jobs they most disliked and the task or aspect they enjoyed. Additionally, work associates were asked to pinpoint the three characteristics of their colleague's work behavior which would best discriminate him or her from other people they worked with. It was hoped that these questions would yield the most useful information about critical managerial behavior.

This information is presented verbatim, without addition or deletion, in Table 10 (subjects' descriptions of liked and disliked tasks) and Table 11 (associates' descriptions of subjects' work behavior).

Table 10. Current job likes and dislikes of Government service managers by major role preference as indicated by the subjects (n=18)

	Likes	Dislikes
Explorer-Promoters (ECAAF)	<ul style="list-style-type: none"> Autonomy to manage my section with limited external influence. Dealing with a wide range of officers at all levels. Developing new strategies to solve problems. Unstructured problems. Theorizing and addressing such problems. Thinking, using logic and reasoning to come to a conclusion. 	<ul style="list-style-type: none"> Routine and repetitive administrative work. 'Processing-type' aspects of work. The more procedural aspects of the job. These have set rules that are quite inflexible. Therefore these types of tasks provide little room for experimentation and innovation.
Explorer-Promoters (ECBS)	<ul style="list-style-type: none"> Deciding how the team should develop, researching into better ways of doing things. 	<ul style="list-style-type: none"> Coordinating the information flow.
Assessor-Developers (ECAS)	<ul style="list-style-type: none"> Seeing the successful completion of projects that meet the requirements of senior management or 'client' branches. 	<ul style="list-style-type: none"> Attending to administrative procedures rather than the technical content of the job.
Thruster-Organizers (EPAS)	<ul style="list-style-type: none"> Coordinating and planning a specific task which involves use of different resources. Power, influence, importance, recognition. 	<ul style="list-style-type: none"> Routine responses to situations not clearly under control of me or my employer's authority. Attending meetings.
Concluder-Producers (IPAS)	<ul style="list-style-type: none"> Organizing work within the branch and bringing it to a successful completion. Developing and directing projects. Overall supervision and control of budget expenditure. Organizing fluid run of work. Devising solutions to problems discovered and selling/discussing them with clients. 	<ul style="list-style-type: none"> Discipline matters. Resolution of conflict situations. Attending many regular meetings which are not of a productive nature. Detailed breakdowns of expenditure against budget. Forecasting expenditure. Strict deadlines. Writing final detailed reports with recommendations for senior management.
Controller-Inspectors (IPBS)	<ul style="list-style-type: none"> Financial advisory duties. 	<ul style="list-style-type: none"> Accounting reporting duties.
Reporter-Advisers (ICBF)	<ul style="list-style-type: none"> Consulting with clients. 	<ul style="list-style-type: none"> Research.
Creator-Innovators (ECBF)	<ul style="list-style-type: none"> Designing, testing, implementing new systems and processes for the whole organization in association with top management. 	<ul style="list-style-type: none"> Processing simple one-off tasks that involve volumes of paperwork (Reports/Submissions).

Table 11. Associates' descriptions of subjects' work behavior by subjects' major role preference (n=14)

<p>Explorer-Promoters (ECAAF)</p>	<ul style="list-style-type: none"> • He thinks he knows everything about any topic you could imagine. • Even though he delegates a routine job to a subordinate he will not rely on that person to complete the work and tends to supply advice even though it has not been requested. If two subordinates are discussing something he imposes himself upon the conversation and starts giving unwanted advice. • Concentrates excessively on details. • Determined. • Accumulates information and uses it to advantage in work and with people. • Presents well. Great personal style. Speaks well. • Logically thinks issues through but at the same time considers a number of options. • Willing to learn from others. • Willing to accept constructive feedback about performance.
<p>Assessor-Developers (ECAS)</p>	<ul style="list-style-type: none"> • Attention to detail and practicality. • Production-oriented. • Effervescent and a challenge to work for. • Drive and energy. • Large output. • Ability to analyze a problem quickly, identify the major points/issues, draw a conclusion and present it forcefully. • Strong moral beliefs do not allow him to be bound by traditional approach to problems. Tests his solutions by likely effect it will have on recipient and how he would like to be treated under similar circumstances. • <i>Creative thinker</i> - able to derive new approaches to problem solving – believes if given opportunity would introduce some refreshing (radical) ideas to a public-service job. • <i>Theoretical</i> - in that some solutions are not achievable. Perhaps underestimates influence of external forces (political, financial) that will be applied when ideas are promoted to superiors.
<p>Thruster-Organizers (EPAS)</p>	<ul style="list-style-type: none"> • Very keen to involve subordinates actively in the more interesting aspects of his work. • A strong eye for detail. • Takes a personal interest in his subordinates' well being. • Loyalty: if they are right he will stand behind his subordinates. • Objectivity: he will listen to any reasoned debate. • Always available to offer assistance. • Looks after staff with problems both within and outside work. • Always willing to help outside people. • Greatly involved in the activities of all areas connected with the department.

Table 11 contd.

<p>Concluder-Producers (IPAS)</p>	<ul style="list-style-type: none"> • Good at consulting and sharing with others ideas, work, thoughts, feelings, and responsibilities. Open and very honest. Tries to harmonize things. • Enthusiastic, hard-working and dedicated. • Very conscious of status and all that goes with it. Is very proud of his 'profession'. • Delegates very well, both the task, responsibility and authority to go with it. • Communicates poorly under pressure; becomes confused and confuses others. • Does not perform well under pressure. • Ordered and methodical. • Authoritative and not very flexible. • Determined and persistent. • Prefers to work with staff who are capable of following his line of thought and action. Staff need to be constantly alert. • Works alone gathering and assessing data. • Does not communicate easily with other staff. • Leads by example: provides good example of a project leader, e.g. well spoken, good verbal and written presentation, task oriented rather than time oriented, well dressed and well groomed, non-disparaging, provides constructive criticism, yet firm and deliberate when censure is required. • Human approach: very interested in the welfare of others. This factor allows the establishment of a good level of rapport with all levels of people with whom he deals and engenders a good response from other personnel. • Reliable - matters discussed in confidence remain in confidence; agreement and commitments given are met whole-heartedly. • Flamboyant personality, usually filled with optimism and inspires confidence; always developing options - looking for ways to proceed; good negotiating skills especially in difficult situations. • Very high levels of energy and tenacity, works long hours consistently when required, very reliable - high task orientation. • Very good leader with good organizing abilities - leads by example - good counseling skills - open to alternative ideas, approaches, etc. Uses available resources (human) to the full; helps subordinates to develop themselves and achieve more.
<p>Controller-Inspectors (IPBS)</p>	<ul style="list-style-type: none"> • Strong feelings and beliefs are important in decisions. • Very orderly and neat. • Believes in overcoming a problem or task straightaway rather than putting it aside until later.
<p>Creator-Innovators (ECBF)</p>	<ul style="list-style-type: none"> • High personal standards. • Critical. • Intelligent. • Creative ideas for tackling problems, produced usually in short time frames with penetrating value - linked to a notion of 'visions'. • Strategic value/level of thought, capacity to see broad context of any issues and issues in general. • Sharp wit and inter-personal communication style that cuts straight to the center of a matter, often with scant regard for the listener's feelings. The 'honesty's too much' (maybe it's frankness) for many people when delivered bluntly.

To a large extent, Tables 10 and 11 speak for themselves. **As the data are, by its very nature, anecdotal, conclusions cannot claim any great degree of objectivity or precision.** However, Explorer-Promoters consistently show a liking for 'exploring' activities against the 'controlling' activities favored by Upholder-Maintainers, Controller-Inspectors, and Concluder-Producers. Such trends become even more apparent when we compare the 'active' verbs used by these different types of people. 'Autonomy', 'developing', 'theorizing', 'thinking', 'reasoning', and 'researching' are popular words among

Explorers, while Controllers talk of 'organizing', 'developing and directing', 'supervision' and 'financial advising'.

As could be expected, the correspondence between associates' descriptions of subjects' work behavior and subjects' role preferences, while conforming well to the Team Management Wheel, are not so striking as subjects' own likes and dislikes. Naturally, associates cannot be expected to 'know' the work behavior of the subject as well as the subject him/herself. Situational factors affecting the work relationship between the two may also color a worker's perception of his/her colleague's work behavior. An associate may see that person as a threat to his or her own position, using mechanisms such as projection, negativism or reaction-formation to modify his/her perception of the other person's work behavior. An associate's *own* work preferences are also likely to affect the perception of others' working styles.

Despite the operation of these uncontrolled confounding factors, Table 11 provides a clear picture of the varying work behavior of those with different role preferences. While there are some contradictions (for example a Concluder-Producer is described as communicating poorly under pressure, while another is 'well-spoken'), it is expected that further research will be able to tap the *critical* dimensions of work behavior that can best discriminate between those having different role preferences.

Of course we cannot expect work preferences (no matter how valid the measure) to explain most or even a substantial amount of variance in people's work behavior. Other factors which have an effect on work behavior include company policy, field of endeavor, size of the organization, interpersonal factors, incentive schemes, educational background, health, and even non-job influences like family problems and leisure interests.

We do, however, expect work preferences to help explain work behavior substantially. The study described above has gone one step towards demonstrating that each of the role preferences has certain work behaviors associated with it. The Team Management Profile Questionnaire has demonstrated some usefulness in measuring work preferences, and combining them into discrete categories which are related together to form a model of teamwork.

References

- Carmines, E.G. and Zeller, R.A., (1979), Reliability and Validity Assessment, Sage, California.
- Cronbach, L.J. and Meehl, P.E., (1955), Construct Validity in Psychological Tests, **Psychological Bulletin**, Vol. 52, pp. 281-302.
- Davies, R.V., (1987a), 'A visual representation of job title similarity ratings', MERU Working Paper No. 7, University of Queensland.
- Davies, R.V., (1987b), 'Concurrent scale validity of the Team Management Index', MERU Research Report 11, Department of Management, University of Queensland.
- Margerison, C.J., and McCann, D.J., (1985), Team Management Profiles: Questions and Answers, MCB University Press, England.
- Messick, S., (1980), Test Validity and the Ethics of Assessment, **American Psychologist**, Vol. 35, pp. 1012-27.