Personal Profile Analysis –

The Technical Resource Book –

Executive Summary

Chapters 1 & 10

Prepared for Thomas International

By

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INTRODUCTION

More than a decade ago, Thomas International commissioned a review and critique of the known technical background to Personal Profile Analysis (PPA). The result was the Personal Profile Analysis Technical Handbook, published in 1988. Thomas International distributed that Handbook to its clients without amendment. Chairman Ray Reed of Thomas International insisted from the outset that my function be that of an independent technical consultant. My role was to comment on issues without commercial constraint; and to make suggestions to increase the understanding and to improve the application of Personal Profile Analysis.

Since 1985, information has been collected, research conducted and commentaries written about the meaning and functions of Personal Profile Analysis. Consequently, psychologists have a more certain grasp of what Personal Profile Analysis represents; and of what it does and what it does not do for clients. In responding to frequently asked questions from organisations and professional bodies conducting evaluations at home and abroad, one is forced to address technical issues of validity and reliability. Moreover, in addressing good practice issues of equity and fairness for users and their clients, one tries to create contexts for political defensibility. After almost two decades of work, a revised edition of the Personal Profile Analysis Technical Handbook seems necessary and appropriate.

The preparation of its successor, The PPA Technical Resource Book, provides an opportunity to put the relevant sources in one volume. To make the Resource Book comprehensive in scope, material has been edited and abridged from previously published works where appropriate. For example, important sections of the Personal Profile Analysis Technical Handbook, (Irvine 1988a), the introduction to William Moulton Marston’s (1928) The Emotions of Normal People, (Irvine 1988b), and reports by other writers have been edited, abridged or summarised. Essential new material was obtained from a definitive research project on the structure of Personal Profile Analysis conducted during 1997-1999. This work was supported by Thomas International, the United States Air Force and the United States Academy of Sciences. Research carried out on foreign language versions of Personal Profile Analysis has also been included. This part of the work has been subtitled The Revalidation of Personal Profile Analysis.

The PPA Technical Resource Book has four parts. The first contains a short outline, written in straightforward language for people who are not technical experts. It defines the unique nature of Personal Profile Analysis by comparing it to other published comprehensive psychometric tests of personality factors. It then places the recommended use of Personal Profile Analysis firmly in the context of structured interviews, which are explained and evaluated. Read as a whole it serves as the first part of an executive summary of technical issues to be raised again and resolved in the body of the handbook itself. Executives should read this and then proceed directly to part four.

The second and third parts could and perhaps should be read and studied by those professionals whose function it is to interpret technical reports to others. They are not for casual readers, although there is much of interest for those qualified to profit from their content. These sections describe how Personal Profile Analysis has evolved as a valid and defensible management tool, using as evidence published and reported research.

This introduction would be seriously incomplete without acknowledgement. There are many with whom I have worked to make this source book worthy of their help. I thank Tony Kaye of Thomas International for a number of years of commentary on materials.
when they were originally written; and Richard Walker and Janice Hereford for their work in the computer administration of various tests to USAF inductees at Lackland Air Force Base San Antonio, Texas. To Pat Kyllonen and Richard Roberts of Educational Testing Service goes my gratitude for their collaboration at The USAF Laboratory at Brooks Air Force Base, San Antonio, Texas; and for their willingness to share what they know with me. Professor Stephen Newstead of the University of Plymouth provided a formative review of the first draft of the manuscript. His valued and constructive comments have led directly to revisions and, I hope, improvements upon the original.

During the years 1997-1999 Thomas International commissioned the research conducted on experimental forms of Personal Profile Analysis. Part of this work made use of confidential and anonymous data collection from US Air Force inductees while they underwent routine and voluntary appraisal at Lackland Air Force Base, San Antonio, Texas from 1997 to 1999. This permission was granted in my role as National Academy of Science Senior Research Associate at the Air Force Laboratory, Brooks Air Force Base, San Antonio Texas. Funding from these sources is gratefully acknowledged. While thanks go to all of these and others who made publication possible, faults of omission or commission are mine alone.

To Ray and Doreen Reed in particular, and to all Thomas International employees who participated, this PPA Technical Resource Book is inscribed.

Sidney Irvine
Berwick Upon Tweed, October 2002

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I also wish to acknowledge permission from Thomas-Lyster to use my copyright materials from The Emotions of Normal People and from Personal Profile Analysis Technical Handbook.
Part 1

Personal Profile Analysis: Form Follows Function
CHAPTER 1 - WHAT IS PPA?

The Form of PPA Follows Its Function

The form of Personal Profile Analysis follows its function. Personal Profile Analysis is used primarily as a part of an extended and structured appraisal system developed for managers wishing to recruit new employees or allocate present employees to jobs. Other uses include appraisal for training and development, career guidance, benchmarking, team analysis, executive feedback and planning for change. In each of these human resource applications, PPA has a contribution to make.

Once participants reach the interview stage, those who are given PPA are presented with an inventory of words describing personal qualities. The words are presented in blocks of four. Participants have to choose two out of four words that represent different personal work styles. One word is chosen as 'most like me' and another as 'least like me'. The other two words are left blank. Each block of words is counterbalanced for social desirability. Personal Profile Analysis may be delivered as an interview using paper and pencil or by using a computer as an interface (see Appendix 1).

From the individual's pattern of responses, a graphical representation of the degree of preference for types of job behaviour is given along four dimensions called Dominance, Influence, Steadiness, and Compliance. When advice as to the significance of the profile is needed, this is contained in an individual report generated from a set of 'standard' statements. These include commentary about likely work behaviour, contexts for maximum job satisfaction, and suggestions for questions to ask as the interview proceeds.

The prime function of Personal Profile Analysis is the production of usable inferences from the interview form to aid in personnel decisions. There are no 'scores' derived from norm tables. As an interview aid, Personal Profile Analysis comes within the spectrum of appraisal systems characterised by The American Psychological Association.

"There are wide variations in the sophistication of assessment techniques. At one extreme is the test that has gone through several revisions based on many research studies. At the other extreme is the casual interview that provides assessments based on varying and unsystematically observed cues'. (The American Psychological Association, 1974, p.2).

The declared aims of the Personal Profile Analysis form are:

- To impose structure and ‘focus’ during the employment interview.
- By imposing structure to minimise the possibility of adverse impact derived from ‘varying and unsystematically observed cues’.

Defining PPA: What Is It For and Who May Use It?

The relevant issues

More than 250,000 PPA interview forms are sold in the United Kingdom every year. This extraordinary market share has helped to focus attention on a form of self-report that apparently requires little in the way of introduction, is liked by its users, and has also been translated into many languages for use around the world. Here and in other countries, a
substantial storehouse of knowledge and informed judgements about PPA have emerged (Thomas International 2002). 

This knowledge, largely based on the experience of managers, has been used in the construction of Personal Profile Analysis to generate valid reports that give information about a candidate’s likely work style. Such incremented knowledge describes behaviour in work-roles, an exercise that all selection panels undertake with or without the benefit of evidence other than their own eyes and ears. Neither the profiles produced by PPA, nor the questions asked by panels employing it, constitute the type of psychometric personality inventory demanding administration and interpretation only by trained and qualified psychologists.

Professional perspectives
Personal Profile Analysis has attracted comment from professional psychologists in the United Kingdom and overseas. The hitherto small amount of published work appears to stem from interest in the success of a system that requires little or no input from psychology graduates. Some, but not all, of the commentators on Personal Profile Analysis have approached PPA as if it were an instrument created for use by psychologists alone. Nevertheless, all evaluations have to be viewed from the perspectives of theory, operational use and accumulated research evidence. While professional debate is formative in research and development, the psychometric meaning of PPA is not a matter for assumption or stipulation. For example, in workshops introducing the PPA interview form, and in correspondence with The British Psychological Society Thomas International has provided its own point of view. Simply stated, it is contrary to the policy and marketing procedures of the company to suggest or imply that PPA can or should ever be represented as a test of personality to be administered, scored and interpreted solely by people who are professional psychologists. In summary, what Personal Profile Analysis measures is a tangible issue that can be addressed directly in the sections of the resource book based upon actual research, particularly Chapters 6 to 9.

In light of that evidence, any account of PPA that treats it as if it were a personality test of global proportions requiring the interpretive skills of professional psychologists would be systematically misleading.

The initial independent review of PPA, published as Personal Profile Analysis: Technical Handbook (Irvine, 1989), advises caution in attaching importance to any work and research that assumes that PPA is such a test. Subsequent independent and published research contains a major paper on the role of PPA and other instruments in employment selection and allocation (Irvine, Mettam & Syrad, 1994). It concludes from a number of separate validity studies that decisions based on the four domains of Personal Profile Analysis interviews (Dominance Influence, Steadiness and Compliance) have substantial validity when they are used in recruitment, deployment and development decisions by ordinary business managers. However, these publications by themselves are not enough. To find out

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2 References to previous publications by Thomas International are made for historical purposes only. Most if not all of these have been discontinued. The substantive reference is The Practitioner Workshop Manual, 2002 Edition, published by Thomas International.
what PPA does, and does most effectively, a collected body of evidence appears in this volume. This is how it is organised.

**What resources are needed to reach an informed conclusion?**

The PPA Technical Resource Book has four parts. This first part contains a short outline, written in straightforward language for people who are not technical experts. It defines the unique nature of Personal Profile Analysis by comparing it to other published comprehensive psychometric tests of personality factors. It then places the recommended use of Personal Profile Analysis firmly in the context of structured interviews, which are explained and evaluated. Read as a whole it serves as the first part of an executive summary of technical issues to be raised again and resolved in the body of the handbook itself. Executives should read this and then proceed directly to part four.

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**Various Attributes of Personality Tests**

If Personal Profile Analysis does not claim to be based directly on all of the properties of professionally restricted tests assessing all of the personal domains, what qualities would serve to underpin and justify its use? At the outset, it is as important to define any form of interview by showing what it is not, as by asserting what it is, or ought to be. To promote a balanced judgement, here are some examples of what restricted personality tests are and what Personal Profile Analysis is not.

**Domain-Complete Personality Tests Restricted for Use by Psychologists:**

- A standardised psychometric personality test, with population norms, based on extensive research using a recognised theory of personality or motivation. (For example, Jackson Personality Research Form, Cattell 16 Personality Factor Form, Minnesota Multiphasic Personality Inventory).

- A test used exclusively by, and largely confined to, psychologists making professional diagnoses. (All of the above mentioned).

- A test often quoted in textbooks of psychology. (For example mental tests such as Raven's Progressive Matrices, the Wechsler Adult Intelligence Scales as well as personality tests already referred to).

- A test with a large citation index in the psychological literature. (All of the above-mentioned).

- A test requiring extensive training during or post-bachelor's degree in psychology. (All of the above-mentioned).

- A test whose technical results could not be understood by line managers, and if applied without guidance could lead to invalid personnel decisions. (All of the above mentioned).
Contrasting PPA Characteristics

Personal Profile Analysis appears to have very few if any of these characteristics of all-purpose personality tests, although it has been evaluated by the British Psychological Society for inclusion in their publications. Moreover, the Personal Profile Analysis literature makes no claims that could fall under any of these other criteria. The qualities of Personal Profile Analysis are implicit in the previous and current training manuals used by Thomas International to ensure that clients acquire the right contexts for its functions. There are no explicit commentaries on the characteristics of Personal Profile Analysis except those contained in the original Technical Manual (Hendrickson, undated). Hendrickson makes no claims for the profile’s comprehensiveness, counsels use of its information as part of a systematic procedure and advises against ‘mechanical’ application of the instrument. Instead, attention is to be directed to ‘insights, clues or handles’ for career or organisational planning (pp. 11-12).

Indeed, there has not until now been much published scientific information about PPA. Nor does it appear to be taught in courses on measurement and psychometrics. If so little academic knowledge is available, what are its observable characteristics? For detailed understanding of what these characteristics are, and how to use them, readers should refer to the current Thomas International Systems Workshop Materials (Thomas International 2002).

Known PPA Characteristics Related to Personal Qualities:

- An inventory of words in groups of four derived from a set of descriptive trait adjectives commonly in use and readily understood by normal adults.
- A form used around the world in translation by ordinary people in management positions.
- A procedure seldom referred to in standard textbooks of psychology.
- A very limited citation index confined to a series of evaluations in industry.
- A procedure requiring the minimum of training to get started, backed by a referral and report system.
- An inventory that has appeared in the British Psychological Society’s Handbook because it has been favourably evaluated by that organisation.
- A system whose results are understood and put into practice by laymen. When results are applied to personnel decisions without guidance from psychologists they produce outcomes acceptable to employers.

Apart from these two contrasting positions provided by the writer, there is a third way, provided by the British Psychological Society itself. The Society has a system of evaluation of tests and inventories which it publishes and provides for potential users. For completeness, the British Psychological Society’s review is included in summary form.
The British Psychological Society’s appraisal:
Thomas International submitted PPA and all its available documentation to an independent review of the inventory. It was carried out by reviewers Robertson, Hodgkinson, Robertson and Lindley (2001). Here is a summary of the main points of the review, using the headings supplied by the reviewers:

1. **Rationale:** It is linked loosely to Marston’s theories and the item content appears to be appropriate to the scales conceptual descriptions. It is used to assess enduring attributes or dispositions within the personality domain.

2. **Acceptability:** PPA is an acceptable instrument from the respondent’s viewpoint. Simple judgements are made using well-presented media. The reviewers recognise that PPA can not be used unless appropriate training has been completed, although no British Psychological Society certificates are required by users.

3. **Validity studies:** A range of validity studies is discussed, from face through concurrent, construct and predictive validities. The reviewers regard them as capable of extension and improvement.

4. **Reliability:** While the original standardisation work by Hendrickson is acknowledged to be satisfactory, and the range of reliabilities reported in the Technical Handbook (Irvine 1988) appear adequate in general, more needs to be done on stabilising reliabilities using the current version of Personal Profile Analysis.

5. **Normative data:** There is an extended discussion of the place of norms in inventories like PPA that use forced choice techniques. The reviewers are equivocal about the use of norms in these circumstances. They report that descriptions of word choice frequencies are given for a number of samples within and across national boundaries.

6. **Clarity and coverage:** The reviewers seem to be satisfied with the overall coverage in the various training and other sources but they advise stricter quality control in the organisation of technical documents. Their main criticism is the lack of a central storehouse of information so that all the technical qualities of PPA can be seen within a single context.

7. **Technical discussion:** There is an extended technical discussion of the psychometric issues involved in the use of forced-choice inventories. The reviewers stress the need for adequate training in the use of such inventories to clarify the meaning of the results and to ensure careful application by non-psychologists. They also underscore the need to ensure that the use of Personal Profile Analysis avoids both indirect and direct discrimination.

8. **Conclusions:** The reviewers conclude that PPA is brief, easy to use and is accompanied by user-friendly training materials. Reservations are expressed

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3 Holders of the BPS certificate B have the opportunity of a free tutorial provided by a Thomas Consultant to provide them with access to the PPA

4 There is only one appropriate source for the understanding of the similarities between normative and self-referent data, and that is not given by the BPsS group. This is Horst (1965, Chapter 13).

5 Now addressed by this Resource Book (S.I.)
about the psychometric properties of PPA, shared by most if not all forced-choice instruments. Because of these technical issues, they regard interpretation of PPA as a process requiring care and guidance.

There can be no misunderstanding of the position adopted by the British Psychological Society. The criteria for evaluation are precisely those adopted for domain complete tests judged by psychometric standards. PPA achieves acceptable overall ratings when these are applied by the reviewers.

The Thomas Training Position on PPA

A considered position has been adopted by Thomas International in training users. Thus far, the interview and transactional contexts of PPA have been observed. Professional standards have been applied to the inventory by psychologists, with satisfactory outcomes. Nevertheless, Thomas International (2002) endorses its currently advertised position. PPA is best used and evaluated as a structured personal quality interview form whose efficacy in the employment interview is based on decades of experience in relating what people report about themselves to their subsequent behaviour at work. What evidence supports this assertion?

The ethical and legal implications of using Personal Profile Analysis in this fashion are clearly stated in The American Psychological Association guidelines.

'Some assessment techniques are used as interview aids......When [the results] are used as aids to an interview assessment, the interviewer himself is the final assessment device, and his assessments then become the 'scores'. These assessments can and should be validated against other...measures'. (The American Psychological Association, 1974, p.3.)

The traditional form of 'final assessment device' (the interview panel) has been shown to be both unreliable and invalid. It is particularly vulnerable when too much information is being processed in too short a time, and when committees are the context of final job offers. When Personal Profile Analysis is introduced, how can ordinary people in management roles make hiring and allocation decisions that are consistent and valid? The following sections provide some answers.

The Employment Interview and PPA

The broad context of Personal Profile Analysis (PPA) use and application is the employment interview. Before examining PPA's particular role, the interview process itself requires a summary evaluation. Remarkably, this seems to be one topic on which experts seem to be of one voice. Knowing what this consensus is, we can then ask if embedding Personal Profile Analysis in the context of the interview adds any useful dimension to the whole interview process.

First, what do psychologists themselves say about interview procedures? How long have they held these opinions? Have they altered much in the last 50 years? Although answers to these questions can be found, no exhaustive search of the literature will be needed to provide the verdict. It can be taken off the shelf. In fact, anyone who is concerned with the place of the interview in appraisal methods today could learn the basic science and encounter all the contemporary issues from one slim volume, a book called Personality Tests and Assessments, written by the late Philip Vernon in 1953. The book has never gone out of date; only out of print. This and other classical studies are used throughout the resource book as operational illustrations; but those who
would like to refer to recent textbooks containing more detailed discussions of the value of various interview formats are referred to Cronbach, (1990); Fowler, (1990); Rubin and Rubin (1995); Krueger (1998); and Seidman (1998).

These consistencies imply widespread and lasting agreement about the place and value of the interview in appraisal of personal qualities and attributes. Vernon (1953, pp 20-21) writes about personnel interviews, as they are applicable to techniques of appraisal of personal characteristics thought necessary for job suitability, as follows:

"The selection interview is obviously unsatisfactory, because it provides such an unrepresentative and limited sample of the interviewee's behaviour. But in spite of all the adverse evidence the interview is likely to remain the major technique."

He then lists compelling reasons for the permanence of the interview. Interviews are favoured and universally accepted:

- By employers and personnel officers who wish to exercise the power of their own judgements.
- By applicants who tend to be suspicious of impersonal and often "closed" techniques such as tests.
- By applicants because the interview stage is invariably perceived as a reward.

These socially desirable factors apart, the interview has undoubted flexibility denied to standardised tests, which still tend to provide information regarded by employers as supplementary to the interview itself. The "psychology" of the acceptance of the interview (for all its built-in problems of reliability) exists in Vernon's judgement of nearly half a century ago. Has it undergone any radical revision? Vernon's trenchant verdict can, and ought to be compared with a summary in a much more recent book by Paul Kline (1983). If anything, he is even more dismissive, even peremptory. The sharp edge of Kline's (1983, pp 26-7) opinions is in no doubt.

"Of all assessment procedures, interviews are probably the most common. There is a good consensus of agreement that they are highly ineffective, especially in respect of personality measurement. Generally, interviews fail because they are not reliable "(P.26).

Cronbach, (1990) puts it like this when referring to criteria:

“Unreliability is to be expected when criteria must be collected inexpensively, under field conditions with few controls.” (p.432).

This situation could just as easily arrive in the unstructured personnel interview.

All of these summary opinions are based on extensive experience in the world of academic research. For those who want a more hands-on verdict, a good guide based on contemporary studies and practical applications exists in Alan Jones's classic (1984)

Comment: Nothing may be more depressing than being left off the shortlist.
paper on the use of pre-assessment centres in the Royal Navy. Here the conclusions are similar. He cites the well-known review of research by Arvey and Campion (1982) on the employment interview. Interviews tend to have low reliability (a coefficient of .6 compared with the usual test reliability of close to .9) and uncertain validity (a coefficient of .3 that could only be useful in exceptional circumstances). These levels are very similar to those quoted by Vernon (1953, pp 23-9).

Limited reliability and validity remain the verdicts on the short-list interview of average duration 30 minutes, in spite of changes in instruments and emphases in the past 50 years.

What Interviews are of Most Worth?

All agree that the interview is here to stay. Given this fact of life one must make the best of it. The key question now becomes what safeguards can be in put in place to capitalise on the interview opportunity? Once again, a summary capsule from one of the most comprehensive of textbooks on assessment points in the accepted direction. Kaplan & Saccuzzo (1982, p. 215) write in this way about the employment interview.

"the structured interview is emerging as the preferred method for employment purposes. Industrial psychologists thus find the loss of flexibility more than balanced by the increase in reliability."

Is there direct evidence to support this more positive generalisation?

Important principles for removing the worst effects of unstructured or unplanned interviews were established more than two decades ago: and are to be found in key published works of research. Only the main points are reproduced here. Arvey and Campion (1982) note the advantages of using job analysis and job information in constructing the questions to be asked at interview. Osburn, Timmreck & Bigby (1981) commend the use of specific job-related characteristics to integrate and impose order and value upon the information available about the applicant. Reilly & Chao, (1982) show how biographical data has proved its usefulness when used in the pre-assessment context.

The Primacy of the Jones Structured Interview Model. With all of these leads available for structuring a pre-assessment interview frame for use with candidates for commissioned entry to the Royal Navy, Jones (1984) in a classical British study, applied them to the task and established the Jones Structured Interview Model. This is taken as the benchmark standard to follow in evaluating the recommended Thomas procedures.

The key: reliability through structure in the interview process

The main goal of structured interviews is to provide questions so that replies can be understood to mean the same thing for larger groups of people. This standardisation is particularly important in the context of fair employment practices. When questions lead to the same inferences about all applicants regardless of background, discrimination, both direct and indirect, is unlikely to occur.

Before we examine how successful the Jones Interview Model proved to be in achieving this goal, one last glance backwards is useful. The continuing emphasis on structuring the interview process owes no small amount to the work of people recognised as the founding fathers of personnel psychology. Jones's structure can be seen to correspond
closely with prescriptions found in the early work of the National Institute for Industrial Psychology in the thirties and forties. The publications of Oldfield (1941), and perhaps above all, Rodger (1954) resulted in a famous synthesis of the kinds of information required called The Seven Point Plan. This suggested seven key questions that needed to be answered before reaching decisions about the appropriateness of candidates for specific job vacancies. One can offer no explanation as to why it took so long for science to come to terms with field experiences.

Jones's Interview Model was put into practice in this way. An exhaustive analysis of roles was followed by a synthesis of the qualities necessary for a commissioned officer's performance. These characteristics were operationalised both by constructing appropriate instruments and by specifying what the interview procedure should involve. Jones (1984 pp 69-70) lists the structured stages of the pre-assessment interview in chronological order as:

- Completion of a candidate personal history form.
- An interview conducted according to a guide used following training in standard procedures.
- A report form compiled after review of the first two stages by the interviewer.
- A reference from the candidate's last educational institution.
- A headquarters reappraisal of all evidence.

**Is this scheme reliable?**

One can use the correlation between the results of the last stage (a headquarters reappraisal of all candidates' fitness for training) and all the cumulative evidence submitted by the field interviewers as an index of reliability. This index was .85. What does this mean in practical pay-off in terms of agreement? In case study terms, this means that of 65 cases analysed by this method, field and headquarters appraisal agreed on the suitability levels on 45 of them. This is close to 70%. In the annals of the history of the interview, it is a signal achievement: and a considerable improvement on the normal range of agreement among interviewers.

**What about its validity?**

When the various components of the stages were correlated with actual performance at a two-day assessment centre programme of tests and performance measures, a validity study was possible. A multiple correlation of .71 was achieved using all relevant pre-screening information. Again, in pay-off outcomes, this degree of certainty meant that cut-off scores would dramatically reduce the possibility of failure by as much as 30 to 40 percent, a major cost-benefit.

A more close-grained analysis shows the contribution of the field interviews. Using the assessment centre result as a criterion, biographical items alone correlated around .4; field interview procedures correlated around .5; and school and college reports around .6. Note the contribution of the structured field interview. Given considerable reliability, estimated at .85, the interviews broke through the "point three barrier" for validity coefficients associated with studies of this kind. In concert with other information, the procedure showed good validity.
The importance of detailed modern case studies such as those produced by Jones is considerable, since they are very rare. This particular interview model is seen to be both functional and coherent. Given that it is among the best in use today, how does its recommendations, apparently yielding promising results for transfer to the structured personnel interview, compare with the recommended procedure for collecting Personal Profile Analysis data within the Thomas system?

**The Thomas Structured Interview System (TSIS)**

Personal Profile Analysis (PPA) is offered to clients as only one element in a recommended interview procedure. Thomas has always advised its clients first to follow standard recruiting, and pre-screening procedures.

**How does Thomas's system compare with the Jones model?**

Serial stages to structure. The extended context for the specific use of PPA was first described and is best understood (T-I ISG, 1983, p 4) as a sequential form of investigative and structured interview with steps or stages. Any one of these stages can be a decision point for continuing or terminating the process. The original interview procedure of the early eighties has been updated to provide additional structure for the user. The modern reports prepared by the Thomas International system give clear guidance about the types of questions to be asked of applicants after introducing Personal Profile Analysis at the short-list stage:

- **Stage 1.** Application form or similar biographical data document completed.

- **Stage 2.** Application reviewed by manager before interview for "fit".

- **Stage 3.** If evaluation is positive at Stage 2, PPA is used together with any other tests or inventories. If the response patterns of PPA are appropriate for the job, according to the company's perception of these, the next step is taken. A patterned interview procedure follows, based on questions suggested by the PPA report system.

- **Stage 4.** A summative report is compiled and ratings given.

- **Stage 5.** This involves reference checking and soliciting the opinions of others in a position to supplement all the evidence from the previous stages.

- **Stage 6.** A final employment decision can be taken at this point, following review of all previous evidence.

There is a close correspondence between the structure recommended for the use of Personal Profile Analysis and the exemplary model provided by Jones.

Moreover, and most important, the main and immediate observation is the recommended place of PPA at Stage 3 of the extended interview and review process. The results of PPA are considered as the last of a series of tasks to be completed by the employment panel when candidates are called for interview. Personal Profile Analysis is used only if they have not already been screened out at other stages in the review process.

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7 Throughout, references are made to previous versions of Thomas International Training Guides and manuals. There are no longer in print and have been replaced. Sometimes quotations from them are used to make a point. These provide a historical perspective on the origins of present day principles guiding the use of Personal Profile Analysis. The Resource Book would be incomplete without them.
process. The implications of the extended stage procedure are important in the quest for equal opportunities (cf. Thomas International 2002, p.57 et seq.). Personal Profile Analysis is not to be used by itself nor is it held to be the main criterion for acceptance or rejection after appraisal. Today’s training procedures firmly caution about inferences from non-observable events. The foundation of this approach was laid down in one of the earliest of the Thomas International training manuals. It is worth repeating twenty years later because of its accuracy; and its directness and brevity:

"From the Pattern Interview Guide and Personal Interview Report leading or searching questions will be asked which should enable the interviewer to determine with a reasonable degree of certainty whether the candidate is suitable for the particular position. Superficial inquiries will not accomplish the objective." (T-I ISG, 1983, p.9).

**Elements in the structure**
What can be inferred from these recommendations for structure? First, they are comprehensive in the collection of the right kinds of information; and they are both orderly and sequential. As such, they are likely to introduce reliability to the interview through the imposed structure. Next, they involve the opinions of senior company members based on all relevant sources of information. Third, they offer review or pause phases. Finally, and most important, psychologists would observe that, provided the recommended procedure has been followed, the variability of candidates must have been reduced in prior stages by decisions in which PPA has played no part.

These decisions are, as the various Thomas training manuals have emphasised, specific to each interviewer, and company. Whatever decisions have reduced the number of candidates and made them (presumably) more homogeneous to Stage 4 of the Thomas sequence, Personal Profile Analysis should accept neither credit nor blame for them. At all times, judgement has been exercised on prior information not supplied by the PPA inventories. However, from the material contained in Thomas publications, one may conclude that the Thomas Structured Interview System is consistent with good personnel practices. To sum up, in accord with the pioneering work of Mayfield, Brown & Hamstra (1980), and contemporary prescriptions in Rubin & Rubin (1995) and Steinar (1996) the Thomas scheme guides the interviewer towards factual, readily observable work activities and behaviours (T-I ISG, 1983, p.8).

**The Human Job Analysis Form in the Interview**

PPA is not a one-sided instrument
A key aspect of PPA’s particular focus needs to be emphasised in the context of the interview. PPA is only one half of a joint process that makes both candidate and interviewer address the problem of what job characteristics are require to be met by the successful worker in a particular job within the organisation. The employer contributes to the process by completing The Human Job Analysis Form (HJA) as indicated in the manual (T-I IGS, 1983, p.30). The candidate, on the other hand, completes the Personal Profile Analysis (PPA) interview. When the interviewer has compiled a profile of the ideal job qualities from The Human Job Analysis Form, this is matched against the profile provided by the candidate from Personal Profile Analysis. Congruence, or at least near concordance, is recommended by Thomas for increasing the probability of job success and satisfaction.

The inventory called The Human Job Analysis Form is presently a series of 24 statements, presented randomly. They fall into 4 groups of 6, each group representing qualities likely to be needed in different amounts by any one job. One set of 6
addresses roles requiring Dominance; another 6 looks at Compliance with rules or standards; a third set is concerned with task Steadiness or persistence; and the last social Influence associated with powers of persuading others.

The form specifically asks interviewers or managers to address the human demands of the job, to rate these on a four point scale, and to construct a simple visual profile based on the summation of these "points" for each of the four clusters of six statements. This visual transformation of the points system into graphs helps to make possible a global pattern comparison with results of the Personal Profile Analysis that is produced, for the same vacancy, by each candidate being interviewed for it. Each applicant is compared against the employer's job prescriptions. Applicants are not compared with each other.

This dual process aims to have both the company representative and the candidate focus on the dimensions of behaviour thought most likely to succeed. The use of The Human Job Analysis Form at any appropriate stage in the recruitment process ensures that the employer is active in role definition. The introduction of Personal Profile Analysis at Stage 3 (with biographical details, work history and work habits and ambitions rated by the interviewer in previous stages) can be seen as one more attempt to structure the interview to attend to the role perceptions of employer and potential employee. Whatever inferences are made after this point are more securely anchored by the content of The Human Job Analysis Form and Personal Profile Analysis.

The Value Added Contribution of PPA: Organisations and Personal Interaction

The uses of the PPA system
In the current Thomas Training Manual (Thomas 2002, Annexe on System Uses) recruitment is only one of a number of organisational variables that are listed. Others include training and development, career guidance, benchmarking, appraisal, team analysis and empowerment and change. In all of these human resource applications, PPA has a role to play. With the listing of these various functions comes awareness that organisations are themselves variables. To take two extreme examples for the sake of illustration, the same person will be expected to behave quite differently in a command environment (military) compared with a client-based organisation (marriage counselling).

The role of the interview in personal percepts of job satisfaction
Career satisfaction, whether in the armed services (see Irvine, Kyllonen and Roberts, 2000), or in the caring professions largely depends on a perceived match between job characteristics and personal attributes. The structured interview is generally thought by applicants to provide for them an opportunity to reveal to employers what personal attributes they bring to the job. But interviews also reveal organisational prescriptions for employees. They demonstrate to applicants, sometimes directly, but more often obliquely in the questions asked and through the emphases of the interviewer, what kinds of behaviour are considered appropriate to functioning within the recruiting organisation. How does PPA contribute to mutual understanding of the fit of the candidate to job requirements?

All effective advertisements for job vacancies deliberately set out not only to attract those candidates who are suitable; but also to deter applicants who are not. They do this by stipulating qualifications, personal qualities and role descriptions. Often, newcomers have no real experience of what these prescriptions and demands are,
although employers may have first hand knowledge of what qualities in individuals are best suited to the particular organisational structures they have created for their employees. A ready source of dimensional adjectives linking personal attributes with organisational demands (even if conventional and well worn) exists in advertisements. Here are some from a national newspaper with an appointments section:

- Dynamic, self-starting, conscientious, determined, goal directed, vigorous - these characterise sales opportunities.
- Professional, intelligent, knowledgeable, persuasive, communicative - these signal personnel managers.
- Prudent, experienced well-qualified, computer-literate, ambitious - they begin to describe accountants or investment counsellors.

These descriptive adjectives not only characterise individuals, they also describe organisational prescriptions for work in the firms themselves. They are doubly dimensional. They differentiate organisations and their occupational demands; and they suggest human personality characteristics that might adapt to them. Given an application that meets the criteria specified, what else determines suitability for any work role?

**Classifying organisational climates**

Jones (1984) in his model study notes that candidates withdrew after the pre-screening stage, or failed to show at the Navy assessment centre. From interaction with the interviewer, or acting on other information, they had learned, or at least perceived enough about themselves in relation to organisational climate not to wish to proceed. Organisations vary as much as individuals do, but not necessarily on the same dimensions. Fortunately, there is broad agreement about how to classify organisational working climates. One of the most complete and readable applications of organisational theory to the prediction of behaviour in different types of workplaces, exists in a central book on organisational variables by Schlechty (1976). He offers a key to understanding why people must behave differently in different organisation structures.

From profession to bureaucracy. Workplaces can usually be placed along a continuum of Professionalism-Bureaucracy. Classification depends on whether status for the individual is conferred by skill that is sanctioned by chartered membership of Colleges or Learned Societies (professional status); or by acquiring skills that operate in a manager-employee relationship governed by observance of company rules (bureaucratic function).

Organisations can also be classified by structural tightness or looseness. Some organisations are extremely tight. They have exclusive boundaries excluding non-members and restricting access to information. They have formal personnel ranks and stress absolute conformity to rules of operation (police and the armed services). Other organisations are loose, having no obvious boundaries within the organisation. There are few rules and high tolerance of idiosyncrasy in pursuit of client satisfaction (public relations, architecture and fashion design firms and most other partnerships of professionals serving clients on a fee-earning basis).

Specialisation within a professional organisation is based on knowledge of policy and on procedures for solving unique client problems (most consultants, particularly medical and technical). At the other end of the professional-bureaucrat dimension,
knowledge bases in bureaucracies are confined to rule application and the treatment of individual cases according to the rules that are applicable to all cases (taxation or building inspectors, policemen). Employees go by the book.

These differences in structure and the nature of knowledge required for the development of coping skills together define work climates. Some may be perceived as antagonistic, harsh and unbending, others as congenial and pleasant.

**Organisational contribution of PPA in the interview**

Such well-known characteristics of organisational structures are known to do much to prescribe behaviour that workers will need to produce in order to adapt to and survive the demands of the workplace. But there is more to it than this. Appendix 2 makes a significant contribution to the problem of predicting the behaviour of individuals in certain climates of work created by managers and workers themselves within organisations. These climates cross the boundaries of professionalism, bureaucracy, tightness or looseness.

They are climates of support (positive) and of antagonism (negative).

The place of Personal Profile Analysis in predicting behaviour in both supportive and antagonistic organisational climates is shown in diagrammatic form in Appendix 2. This largely self-explanatory description of the interaction among Personal Profile Analysis domains and dimensions and organisational climates is the key to the use of Personal Profile Analysis in the interview. Application forms and references provide facts about performance in specific contexts, none of which will ever match exactly the new employment situation. In any fact-finding interview, the question of the fit of the candidate to the climate of the firm and the demands of the particular job on offer will at some point be raised. The employer will ask it, and the candidate will ask it, each from their own frame of reference.

This interactive context for the employment interview has acceptable lines of demarcation. The answers will depend on the degree of professionalism required, the tightness or looseness of the management functions. Appendix 2 shows the special contribution of PPA to making decisions about personal reactions in any work environment of supportive or antagonistic climate. The four quadrants show the predicted interaction of personal workstyle preferences with supportive and antagonistic environments. No other interview inventory offers this particular framework. Moreover, a direct answer to what Personal Profile Analysis is thought to add to the interview is provided by Thomas.

In the Thomas International Interview Screening Guide, the interaction between people and their workplaces is invoked as a justification for more structure in the interview in this fashion (T-I ISG 1983, p.29). Making inferences from sources available prior to Stage 3 about personal fit may not be the only kinds of judgement that are appropriate. The use of Personal Profile Analysis offers more.

"We are able to get an insight into how this person will behave in the job and working environment. It will be helpful in understanding how this person copes with this environment and in turn gives us a key to his/her present attitudes and possible performance. It is not a magical key for understanding actual behaviour."

Theory suggests that one of the weakest areas of judgement in the personnel interview is prediction of how well the candidate will respond to the values and practices of the
workplace. The report on the applicants’ Personal Profile Analysis response patterns offers a set of questions that, when they are answered, will reveal to employer and candidate the probability of their being able to work together.

To conclude, PPA seems, not only from its declared aims, but also from its position in the sequence of structured interview events recommended by Thomas, most likely to occupy a specific transactional role. PPA has the declared function of bringing individual and company perceptions of work characteristics into common perspective, whatever the activity, including training, guidance, appraisal or team analysis. Completion of the form in its present mode, as will be seen in the next section, means checking words that do and do not apply to the person being interviewed. Such a mechanism implies that judgements about the probability of mutual adaptation can be made not primarily on inferences from other data, but from word groups that for the candidate directly address that outcome.

**Scientific factors in human appraisal systems**

While PPA has, or could have, more than one useful interview function, one can now examine its main purpose more closely by defining what it is and what it is not. To what extent are instruments used in the employment interview/appraisal processes a) reliable and b) valid? Nothing else about the instruments - normative, ipsative, the number of so-called personality factors they measure, hand or machine scored, computer resident or paper and pencil - is really going to affect the company's balance sheet to the same degree. Perhaps more critical are issues of social justice for job seekers. Only those practices and procedures that are both reliable and valid can ensure fairness to minorities and equity to gender. When they are reliable and valid they are politically defensible if not always popular.

**A route map**

The sections that follow are largely technical. They are a summation of the journey of Personal Profile Analysis in its present form and function. In general, Parts 2 and 3 provide the theory and the data to appraise reliability and validity of the utility of PPA. Many studies have been undertaken using exact procedures for inventory standardisation and evaluation. Accounts of these occupy the technically demanding sections. A short guide to the resource for complete and selective readers now follows.

The rationale of part two includes the origins of Personal Profile Analysis in the work of William Moulton Marston, whose ideas are compared with selected modern theoretical perspectives on the organisation and interpretation of human behaviour. Theory is followed by a section on implementation. It relates how the present form of Personal Profile Analysis was conceived and constructed. Early attempts in the United Kingdom to establish standard reference points for anchoring work styles are outlined. A closing section describes modern adaptations and research forms of the traditional Personal Profile Analysis protocol.

The third part might well be recognised by colleagues and former students as a tutorial on the use of forced-choice interview forms, although it is much more than that. Subtitled The Revalidation of Personal Profile Analysis it confronts the central technical issues of reliability and validity in self-report inventories where forced choice responses are required. Various validity standards are demonstrated, including validity by congruence, construct validity, validity by group comparison, validity by regression using parallel form items, concurrent and predictive validity. The main evidence is provided by English-language versions of Personal Profile Analysis, but a section on international results contains collateral material from administration in languages
other than English. The technical section closes with a commentary on fairness and equity, under the heading of political defensibility.

The fourth and final part draws conclusions after considering all of the available evidence. This might be read first by those who require the research facts in digestible form. Busy executives should now turn, with good reason, to Part 4 for conclusions and summing up.
Part 4

Summary and Conclusions:
PPA Comes of Age
CHAPTER 10

The Personal Profile Analysis Technical Resource Book: Summary and Discussion

When I first encountered Personal Profile Analysis in 1985, there was little I could write in professional terms that might account for its widespread use; or to explain the enthusiasm of those who used it. In fact, I can recall saying in an unguarded moment to Thomas International officials that, if the company were ever to be challenged about the functions and structure of Personal Profile Analysis, I would find it easier to criticise PPA than to commend it. There then was little or no evidence available that would justify its use to professional critics. Not enough had been known or published about Personal Profile Analysis to give pause to reactions based on the apparent simplicity of the form’s content and its unique scoring procedures. The PPA Technical Resource Book brings to a close that era of misunderstanding and misconception with the following verifiable conclusions from the completed research.

The PPA Technical Resource Book finally provides the historical review of Personal Profile Analysis theoretical origins in the thought of William Moulton Marston that is the backbone of the system. Marston’s work may be realistically linked to contemporary social context theory, to schools of analytic psychology and to Allport’s trait word studies that were the precursor of Tupes-Christal Big Five Theory. These credentials establish the origins of the form as an approach to defining those aspects of personal consciousness that mediate behaviour in supportive and antagonistic environments. There is no doubt that people have preferred styles of interacting with others; and that learning to cope with job demands produces habitual responses in work environments. When these are known, employee and the management perceptions can be coalesced to permit optimum success.

The early validation of Personal Profile Analysis was small in scale in the United States of America, much larger in the United Kingdom but largely unfocussed. Consequently, Personal Profile Analysis remained a mystery to the uninitiated. Little or nothing had appeared in the public domain that would moderate opinion or stifle criticisms from errors of attribution. Nevertheless, information began to trickle out from independent studies of Personal Profile Analysis. The most substantial of these was completed (Irvine, Mettam and Syrad, 1994), with proof of the validity of Personal Profile Analysis in a number of diverse occupations, including trainees, sales representatives, tour guides, and even pub landlords. That same study had one other very important outcome. It showed that too much information was detrimental to interviewer effectiveness, and that interviewers had strong halo effects that blunted perceptions of individual differences. The role of Personal Profile Analysis was offered as a method of reducing information on personal qualities to the minimum required for effective placement decisions, and maintaining attention on profile differences that met basic job requirements.

By the end of the century, however, there were a number of promising sources. Bus driver accident rates and police modal personality profiles were clearly and operationally related to self-reports using PPA. There was evidence of styles associated with distinct PPA profiles from independent studies carried out under supervision in universities and colleges. Clearly, if they could all appear in one place, their potential would be realised. Part 3 is the central repository of these hitherto scattered research
reports. I was surprised to see just how much had been done and with what consistency the outcomes had been independently reported.

These studies also recognised that Personal Profile Analysis had incurred extensive cross-cultural use, having been translated into several languages. Over time, materials from non English-speaking sources began to accumulate, much of it commercial, but some of real importance, particular an elegant study from Russia by Dr Valentina Pogolsha in 1998. This study was central to planning the future of research because it confirmed the need for other cross-cultural approaches to continue the validation of Personal Profile Analysis. The work in The Netherlands and in Turkey, sponsored by Thomas International, was the direct result of the recognised need for replication of English language findings.

By 1997, the stage had been set for the revalidation of Personal Profile Analysis by the creation of the experimental forms Assertive(D) Personable(i) Nurturant(S) Quiet(C) (APNQ) and The Job Satisfaction/Job Prescription Profile and the Thomas International Employee Evaluation Form. These instruments were capable of addressing critical aspects of Personal Profile Analysis reliability; and content, convergent, construct and criterion validity. With the contribution of other materials that were not derivatives of the original Personal Profile Analysis, including The Air Force (Christal) Self Description Inventory, The (Irvine) Self Inventory the Biological Adaptation to Night and Day Situations and Health-Related QoL at Work, an extensive reference framework for restandardisation was in place.

There is perhaps only one technical point to address here. I hope readers will be able to tolerate a small but critical parenthesis. This particular array of instruments not only meant that the qualities in Personal Profile Analysis could be assessed by quasi-parallel forms (APNQ and JSP). They could also be assessed by measures that were normative, and not ipsative in origin. The Air Force (Christal) Self Description Inventory and The Self-Inventory are both Tuples-Christal Big Five Theory inventories using rating scales and not, as in Personal Profile Analysis ranking methods. In short in the revalidation of Personal Profile Analysis we were able to appraise multi-traits by multi-methods, a classical research paradigm seldom achieved in real life.

Towards the end of Part 3 the full impact of these studies becomes apparent. Briefly, reliability estimates, whether internal consistency or parallel form, are not only good in the main, they are always very consistent, regardless of context. D is always reliable as are I and S. The C scale has not always emerged as consistently reliable as the others, but it is, as Marston reveals, a complex construct worthy of more research. The APNQ C scale has proved more consistent with improved reliability; but it was made with the benefit of hindsight.

The validity studies are as thorough and as rigorous as modern methods will permit. Broad pictures are provided through data reduction methods. The factors underlying the strengths of Personal Profile Analysis are always present and consistent. In short, the Dominance vs. Compliance/Quietude and Influence vs. Steadiness/Nurturance bipolar domains are the ‘generic inheritance’ of Personal Profile Analysis in all its forms and isomorphs. The availability of the Tuples-Christal Big Five Theory inventories reveal that Personal Profile Analysis is not marked by other personality domains such as Cognitive Habit of Mind or Neuroticism. These are qualities that Personal Profile Analysis does not pretend to surface in individuals because it is not a global psychometric personality test restricted to psychologists.
For all its apparent simplicity as a means of conducting a structured interview, Personal Profile Analysis proves to be indicative of an intuitively certain and scientifically verifiable array of behaviours present in other inventories. The extensive definitional studies using the large sample sizes to regress items against Dominance Influence Steadiness and Compliance word tallies (Graph 3) have had a major impact on the revalidation process. In table after table, in Chapter 8, the positive and negative weight items provide complete independent definitions of what the word choices portend for the same set of subjects. People who choose certain words in Dominance Influence Steadiness and Compliance can be relied upon to define their actions in the other items presented in different instruments.

These definitions are not unique to one mode or cultural context of form completion. The paper-and-pencil and computer-delivered cohorts were very similar in the behaviours endorsed. The same definitions emerged when the Dutch and Turkish samples were combined at the risk of confounding translations and cultures.

This was a central event in the revalidation of Personal Profile Analysis because it meant that Personal Profile Analysis had proved to have invariant qualities across modes of delivery, language barriers and different Tuples-Christal Big Five Theory inventories. Consequently, this resource book finally establishes Personal Profile Analysis as a consistent and, within its prescribed and limited range, valid indicator of how people see themselves in these domains; and how that vision may be described in easily understandable terms.

In retrospect, the efforts of those who have striven to perfect the product and to make it available to people with no specialist psychological training have been vindicated by these old and new studies. Technically, the revalidation of PPA has proven to be a worthwhile research enterprise involving years of data collection and months of considered analyses. Others will rightfully view the results from commercial considerations. Because all the facts and inferences provide the necessary resources, they may now evaluate for themselves what Personal Profile Analysis might contribute to their own business enterprise. They will not have far to look to enable an informed judgment.

At the beginning of this section I confessed how in the early days of my association with Personal Profile Analysis I thought that it would be much easier to attack it than to defend it. There was at that time little or no verifiable evidence of its function and meaning. The research and synthesis in this The PPA Technical Resource Book need no defence; nor, in my view does the present-day user of Personal Profile Analysis - given proper training and access to professional advice whenever difficult decisions have to be made.

Finally, as long as the published employment policy and practice of the user foster a climate of equal opportunity, the careful and considered use of Personal Profile Analysis within the structured interview should provide support for both policy and practice. Not only has Personal Profile Analysis proven to be technically sound, it is also administratively convenient: and, in the hands of a discerning and sensitive user, should prove to be politically defensible. Personal Profile Analysis has finally come of age with the publication of this resource book.