Psyche

The newsletter of The Psychometrics Forum

The Psychometrics Forum

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A few words from your Editor

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Welcome to edition 66, the Winter 2012 helping of Psyche. We remain a very active group and for many readers this edition will coincide with the annual 'New Frontiers in Psychometrics' event hosted by TPF vice-chair Dr.Hugh McCredie. Hence in our Spring edition you can look forward to reviews of sessions by such thought leaders as Prof. Dave Bartram, Rob Bailey, Dr.Rainer Kurz and Prof. John Rust covering a wide range of topical issues and new developments in the field.

In this edition I hope that we have succeeded in serving up to you a suitably diverse and stimulating collection of articles. I am personally very pleased to welcome back Prof. Paul Barrett who provides us with a glimpse into the evolution of his thinking into wider-reaching changes that may yet impact the very nature and basis of I/O psychology research and practice.

Interested readers who were unable to attend our last TPF seminar on 'Culture & Creativity' will also be rewarded with session summaries on two excellent presentations from Prof. Philippe Rosinski & Dr. Mark Batey. Stemming from a LinkedIn discussion thread reported by Hugh McCredie in Psyche 64, we also have an empirical piece from Richard Sale & Peter Taylor suggesting a clear psychometric profile emerging from people of different cultures who are found to be higher on Elliott Jacques' Development Curve.

On a subject that I am sure will be close to the hearts of many, Philippa Riley of A&DC provides us with a summary of a large-scale study that they have recently undertaken in collaboration with Colorado State University looking at the current practice in the use of AC's around the world. A useful guide to contrasting best practice with common practice.

Our end-piece by TPF's very own Vice Chair Dr Hugh McCredie takes me back to the beginning of my professional career, with a reminder of a seminal article on the benefits of the 'actuarial' approach contrasted to the 'clinical' interpretation of measures. A perennial source of debate that I imagine will outlive us all….

Turning to social media I would like to highlight the excellent work of our very own TPF blogger Raj Chopra. He has been posting monthly since May and to my mind does a fine job in channeling and condensing some very relevant research and contemporary themes in psychometrics and organizational psychology more broadly. November is arguably his best yet:
http://www.psychometricsforum.org/fresh-perspectives-on-psychometrics/

Our LinkedIn site now has very nearly 3500 members. Those who have signed up will no doubt have seen what a lively and flexible forum this if for seeking information and sharing perspectives with professional colleagues and thought leaders from around the world. Moderation is active in the group and we endeavor to keep subjects and content relevant.

The organising committee is currently actively considering ideas for speakers at TPF events in 2013. As ever we would welcome your thoughts on potential speakers for 2013 and beyond. What burning questions do you have? Who would you like to see take the podium?

Wishing you all a very Happy Christmas and prosperous New Year.

Announcements

Copy deadlines – 2013

Spring – Wednesday 6th February

Summer – Wednesday 8th May

Autumn – Wednesday 7th August

Winter – Wednesday 6th November

Details of membership are available on the Forum website: www.psychometricsforum.or

Prof. Philippe Rosinski & Dr. Mark Batey at our recent TPF seminar on 'Culture & Creativity' 26th September 2012

Employability, corporatization, global unemployment, and I/O psychologists:

what psychologists say employers need and what employers say they want in new hires

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Paul Barrett

A confluence of information comprising a couple of essays, a book review, and some unemployment statistics accompanied an "in press" target article in the SIOP journal (*Industrial and Organizational Psychology: Perspectives on Science and Practice*) by Bob Hogan, Tomas Chamorro-Premuzic, and Robert B. Kaiser entitled "Employability and Career Success: Bridging the Gap Between Theory and Reality". The article is available for download; although at present, only for SIOP members.

The article abstract begins:

"Employability is defined as the capacity to gain and retain formal employment, or find new employment if necessary. Reasons for unemployment are often attributed to economic factors, but psychological factors associated with employability also contribute to the problem. Consequently, Industrial-Organizational Psychologists should be uniquely suited to contribute to policy solutions for enhancing employability. This review begins by surveying the most common research approach to employability – the study of career success – which psychologists believe is determined by cognitive abilities, personality, and educational achievement. Next, we review the literature concerning what employers actually want ..."

And the authors conclude ..

"Historically, {psychologists} have told employers what they should look for in employees. The data suggest, however, that employers are no longer listening. Psychologists might consider expanding their research to include what it is that employers actually want in new hires." p. 24.

That alone is intriguing. But what attracted my serious interest was the last word in this statement:

"In our view, both career success and employability depend on behaving in socially desirable ways, especially when interacting with recruiters, employers, and managers. The ability to do this depends on a surprisingly small set of competencies, namely seeming:

- *interpersonally skilled;*
- *smart or able; and*
- *compliant" pp. 19–20.*

That word "compliant" triggered a sequence of propositions, deductions and questions in my mind. This was based upon the information in this target article, along with the global employment trend information being published by the UN International Labor

Organization, some facts from the US about how some liberal arts universities are changing their curricula, an analysis of the benefits psychopaths bring to the workplace (along with the problems), the largest global employers, and some observations on the nature and characteristics of corporate entities.

In a nutshell, I put together a line of speculative propositional reasoning:

P1. Modern corporations and their supervisors want employees who in addition to other attributes they possess, are compliant, obedient, and conforming (Chamorro-Premuzic & Furnham, 2010).

P2. Corporates are growing in size; globally, they are the largest employers of people:

- absorbing and rationalizing (*e.g. absorbing the IP/ technology, making employees redundant*) many smaller organizations
- squeezing other smaller organizations and businesses out of the market altogether
- outsourcing employment to low-labour-cost economies wherever possible
- replacing high-cost labour with lower-cost automation wherever possible.

The result being fewer but higher paid and better rewarded jobs.

P3. To work in these corporates you need a higher-skill-level than previously required, and must possess those attributes of compliance, obedience, and conformity to the corporate ethic.

P4. The high rates of youth unemployment world-wide is not just the result of a worldwide recession, but precisely because young adults are not known for their compliance, obedience to authority, and conformity to convention. They are essentially being screened out (actively and passively) from many jobs because they do not fit the requirements for working in a 'corporate'. But many are also unemployable within such organizations as a result of their lower than required skill-level (because of the characteristics in P2).

Which brings me to my first question:

Q1. If psychometrics, interviews, and I/O team-building/coaching/development psychologists collectively serve to screen out/terminate non-compliant, disputatious, independent-minded, and non-conforming individuals within corporations, then globally, how many people will, for all intents and purposes, be rendered unemployable in any corporate entity for their entire working life?

P5. What CEOs want from their leaders appears to be in direct contrast to what the evidence from corporate employee new-hire surveys seem to indicate. The press release from the recent 2012 CEO survey from IBM corporation stated (http://www-03.ibm.com/press/us/en/pressrelease/31670.wss)

> *"According to a major new IBM (NYSE: IBM) survey of more than 1,500 Chief Executive Officers from 60 countries and 33 industries worldwide, chief executives believe that – more than rigor, management discipline, integrity or even vision – successfully navigating an increasing complex world will require* **creativity***."*

In surveying more than 1,500 Chief Executive Officers from around the world, the IBM 2010 Global CEO Study found that chief executives believe successfully navigating an increasing complex world will require creativity.

And what defines creative people? From: Batey & Furnham (2006) summarizing the results from the famous study outlined earlier by McKinnon (1962):

> *"The key findings from MacKinnon's (1965) work were that the highly creative architects, in comparison with the noncreative architects, were* **less deferent and team oriented; more aggressive, dominant, and autonomous; and less socialized** *(responsible, self-controlled, tolerant, concerned with good impressions, and communal in attitude)." p. 383*

From the same article …

> *"Early research using the CPI and other measures indicated that* **creative individuals** *tend to prefer autonomy and independence; that they are often* **less socialized** *than less creative individuals, with* **tendencies toward aggression or low agreeableness***; and that they appear* **less concerned with convention or conscientiousness***." p. 385*

P6. Why not accept that in the capitalist economies of the world, corporates actually need to employ those who display psychopathic traits, narcissists, and

machiavellian individuals, in order to be competitive? The recent review by Tim Adams in the Guardian newspaper on October 7th of the book by Oxford scholar Kevin Dutton entitled "The Wisdom of Psychopaths" provides an interesting insight ..

"Along the way his analysis tends to reinforce the idea that the chemistry of megalomania which characterises the psychopathic criminal mind is a close cousin to the set of traits often best rewarded by capitalism. Dutton draws on a 2005 study that compared the profiles of business leaders with those of hospitalised criminals to reveal that a number of psychopathic attributes were arguably more common in the boardroom than the padded cell: notably superficial charm, egocentricity, independence and restricted focus. The key difference was that the MBAs and CEOs were encouraged to exhibit these qualities in social rather than antisocial contexts."

Q2. How many of these kinds of young graduate entrants to the workplace would ever pass the usual psychometric and even assessment centre screening of many graduate assessment procedures? How many "argumentative", or "unusual" incumbents never gain promotion because their supervisors and perhaps psychologist-led assessors/coaches consider them "difficult to work with", "not a team-player", not an "academic or corporate citizen" etc. How will the corporations headed by the CEOs surveyed in 2010 ever encounter their next generation of new creative "alter the status quo" leaders?

I want to state clearly that this is not a 'corporate-bashing' or simple-minded quasi-political rant; the benefits of living in a 'corporate' world are all around us. I'm just looking at what Hogan et al have suggested in their in their article and extrapolated a line of

argument and propositions which represent one way of constructing a 'big picture' consequential analysis painted by integrating a variety of data sources alongside the author's' evidence-bases and statements.

I led a seminar-debate around this line of reasoning and evidence to students and alumni at Auckland University on the 11th October, 2012. The presentation and all the supporting information I used/referred to are available for download from my website (http://www.pbarrett.net/presentations.html#employ).

My gut feeling is that globally there is something happening that is not just the result of a sustained economic recession, but reflects a deeper, more fundamental shift in the very nature of what it might mean to 'earn a living' in the future. I think it will impact the very nature and basis of I/O psychology research, practice, and practitioners. How, is still a matter for debate.

References

Batey, M. & Furnham, A. (2006) Creativity, intelligence,and personality: a critical review of the scattered literature. Genetic, Social, and General Psychology Monographs, 132, 4, 355–429

Chamorro-Premuzic, T., & Furnham, A. (2010). The psychology of personnel selection. Cambridge: Cambridge University Press.

MacKinnon, D.W. (1962) The nature and nurture of creative talent. American Psychologist, 17, 484–495.

Documentation available for download with the presentation

These are the files containing some of the information which I used to construct the line of argument.

Presentation #39: http://www.pbarrett.net/presentations.html#employ

Creating and Cultivating a Thriving Organisation

Reflections on Philippe Rosinski's presentation at the Psychometrics Forum event on the 26 September 2012

Sarah Perrott – Cresco Consulting

Sarah Perrott

Professor Philippe Rosinski presented a highly stimulating morning seminar at The Psychometric Forum on Coaching across Cultures. Philippe began with a fascinating discussion across the forum of what culture actually is. He steered us in the direction of realising that culture is a group phenomenon. His point was that we have multiple cultures as we are members of multiple different groups. One group would be our family, another work colleagues, others associates within The Psychometric Forum etc. A useful definition is that a group's culture is the set of unique characteristics that distinguishes its members from another group. These different cultures vary and alter throughout the day. Philippe stated that the notion of identity is the dynamic synthesis of our different cultures. Within different scenarios different cultures would take precedence. The unique characteristics of culture were that culture is an onion ring and culture is also an iceberg. The external versus the internal.

Philippe made the assertion that any norms, values or assumptions that we have can and should be adapted if they are no longer serving us well. So he proposed that in any coaching situation we should challenge and question both our assumptions and the coachee's.

Philippe has an engaging stance of embodying his view that life is all about embracing the sense of 'both' 'and' rather than 'either' 'or'. If there are two contradictory views and if one is right then the other must be wrong. When working in a cross cultural setting this view is unproductive. We were encouraged throughout Philippe's presentation to aim to have the best of both worlds, whatever they may be. An example of this would be to view time as both a scarce and plentiful commodity. Philippe encouraged us to strive for a balance of paradox.

When we are dealing with cultural differences, firstly we need to understand what our attitudes to cultural differences are. Philippe suggested that there were seven levels of dealing with cultural differences. The first three are mono-cultural pitfalls and the final four multi-cultural approaches. The optimal is to go for level seven, but this is not always possible.

1. Ignore differences
   a. Be physically or mentally isolated/ separated
   b. Deny
2. Recognise differences but Evaluate them Negatively
   a. Denigrate others
   b. Feel superior
   c. Place others on a pedestal
3. Recognise differences but Minimise their Importance
   a. Trivialise
   b. Fail to notice uniqueness "We are all the same"
4. Recognise and Accept Differences
   a. Acknowledge, appreciate, understand
   b. Acceptance = agreement, surrender

c. Acceptance needs to be instinctual and emotional as much as intellectual

5. Adapt to Differences
   a. Move outside one's comfort zone
   b. Empathy (temporary shift in perspective)
   c. Adaptation = adoption, assimilation

6. Integrate Differences
   a. Hold different frames of reference in mind
   b. Analyse and evaluate situations from various cultural perspectives
   c. Remain grounded in reality, essential to avoid becoming dazzled by too many possibilities

7. Leverage Differences
   a. Make the most of differences, strive for synergy
   b. Proactively look for gems in different cultures
   c. Achieve unity through diversity

We were all increasingly aware that operating cross culturally is a challenge and also a vast topic. A good beginning point is to raise awareness of what is similar and what is different.

Philippe introduced the Cultural Orientations Framework (COF), an integrative framework designed to access and compare cultures. He made the point that measuring culture from the very get go is biased on our culture. Hence the context in which we observe affects our observation. We exist in the relationship not as separate issues. We were challenged to be careful of constructs and assumptions of a psychometric tool, particularly in a cross cultural setting, our goal being not validity but usefulness. An alternative view for The Psychometric Forum!

Psychometrics, Cognitive Capability and the Measurement of Potential to Handle Increasing Levels of Complexity

Richard Sale

Peter Taylor

Richard Sale – Managing Director EDAC Ltd

Peter Taylor – Managing Director BIOSS Europe

Carrying on from the discussion reported by Hugh McCredie in Psyche 64, we have been taking a look at connections between psychometrics and Jacques' measure of potential as developed by Gillian Stamp at Bioss.

In our survey of 1,204 managers we examined the linkages between 29 psychometric dimensions obtained with the Linked Personal Appreciation (LPA®) expert system and potential as determined in the Career Path Analysis/Modified Career Path Analysis (CPA/MCPA®) process. The breakdown of subjects was 281 from Europe, and 923 from India. All subjects were in active managerial positions. Results were obtained in the period 2006-12.

The LPA, developed over the last 25 years, is a fully computerised 'expert' linked personal appreciation, with an online questionnaire. It covers the 29 dimensions shown in Table 1 and identifies the linkages between them, with integrated utilities to enable detailed statistical analyses to be performed. These are key areas that condition how executives function as members of a management team.

Table 1 – LPA Dimensions

Team Roles	Practical Type	Personality	Dominance	Conflict Handling	Challenging Style
	Consulting Type		Persistence		Resolving Style
	Driving Type		Mood Stability		Judicial Style
	New Ideas Type		Affiliation		Defusing Style
	Catalyst Type		Risk Control		Harmonious Style
	Critical Judge Type		Ingenuity		
	Supportive Type		Openness		
	Detail Type		Energy		
Work Styles	Stimulus Control Style	Learning Styles	Active	Managerial Style	Managerial Style
	Serious Mindedness		Reflective		
	Planning Style		Theoretical		

In terms of how the LPA Personality dimensions relate to the Big 5 model we would see the linkages shown in Table 2.

Table 2 – LPA Dimensions and the Big 5

Big 5 Model	Higher Scores	Lower Scores
Extraversion	Dominance	
	Affiliation	
	Energy	
Neuroticism		Dominance
		Mood Stability
		Affiliation
		Openness
Conscientiousness	Persistence	
	Mood Stability	
	Risk Control	
	Energy	
Openness to Experience	Dominance	Persistence
	Ingenuity	Risk Control
Agreeableness	Affiliation	
	Openness	

[1] Stamp, G. 1978. Assessment of Individual Capability. In: E. Jaques. (ed.) Levels of abstraction in logic and human action. London: Heinemann

[2] The LPA is described more fully at http://edacen.com/portfolio/lpa.html

The Bioss appreciation process, developed over the last 30 years, is a semi-structured, one-to-one interview exploring an individual's preferred approach to work, the type of work complexity (Table 3) with which they feel comfortable, as well as their career history. The outcome of a CPA is a mutual recognition of the current scope of a person's ability to make decisions and of their potential to handle increasing levels of complexity in the future, based on the work complexity model. This capability to handle increasing levels of complexity is referred to as the Mode or Development Curve, and in Jaques' terminology this is the Growth Curve, where the rate of growth in capability over time is determined by the individual's particular Growth Curve. The MCPA is a computerised variant of the CPA with an online questionnaire.

Table 3 - Bioss Work Complexity Model

Complexity Band/ Development Curve	Theme	Theme Management Tasks and Responsibilities
Strategic Management	Corporate Prescience	Bringing into being current and nascent contexts for future generations
	Corporate Citizenship	Creating and sustaining a climate to protect strategic units, embed them in host cultures and alert them to possibilities of evolution
Organisational Management	Strategic Intent	Ensuring the external and internal viability of the enterprise as a financial and social entity
	Strategic Development	Underpinning the future of the organisation by managing or supporting interactions between current products/services, systems and practices, and the innovations and changes needed to align them with the strategic intent
Direct Management	Practice	Providing practices and systems to support production or service, to contain costs, realise purpose and enhance reputation
	Service	Responding to both the obvious and underlying complexities of particular situations or people
	Quality	Making or doing something on which the viability of the organisation depends, and where the output can be specified beforehand

The key correlations are shown in Table 4. Essentially these show the psychometric dimensions most closely associated with those people demonstrating higher levels of potential.

Table 4 – Development Curve Correlations to LPA Dimensions n=1,204

LPA Dimensions	Positive @ 1%	Negative @ 1%
Team Roles	Consulting Type	Practical Type
	Driving Type	Supportive Type
	New Ideas Type	Detail Type
	Catalyst Type	
Conflict Handling	Resolving Style	Defusing Style
Work Styles		Stimulus Control Style
		Planning Style
Learning Styles	Active	Reflective
		Theoretical
		Pragmatic
Personality	Dominance	Persistence
	Ingenuity	Risk Control
Managerial Style	Synthesis of: Supervisory Ability, Achievement Motivation, Self Actualisation, Self Assurance and Decisiveness	

3 The CPA is described at http://www.bioss.com/whatbiossoffers/people/

4 The MCPA is described more fully at http://edacen.com/portfolio/mcpa.html

In Table 5 we show the Factor loadings across all subjects and for the two sub-samples. Factor Analysis indicates the dominant style to be expected in a sample and here it is supportive of a generally uniform managerial culture with the exception of a more Challenging conflict handling style evident in the European managers.

Table 5 – Factor Loadings on Development Curve

LPA Dimensions	All	Europe	India
Team Roles	Driving	Driving	Driving
	New Ideas	New Ideas	New Ideas
	Catalyst	Catalyst	Catalyst
Conflict Handling		Challenging	
Work Styles			
Learning Styles	Active	Active	Active
Personality	Dominance	Dominance	Dominance
	Affiliation	Affiliation	Affiliation
	Ingenuity	Ingenuity	Ingenuity
	Energy	Energy	Energy
Managerial Style	Managerial Style	Managerial Style	Managerial Style

T Test of Europe to India samples shows a number of statistically significant, although relatively small psychometric differences (the largest in the expected Conflict Handling, where the Europeans are less inclined to avoid conflict), but no significant difference in Development Curve. This is further evidence to support the cultural 'blindness' of the CPA/MCPA approaches.

The analysis shows that higher Development Curve individuals are likely to come across as powerful people, who feel empowered to lead others through their innate self-confidence, creativity, openness to new ideas and ultimate focus on the task, and who like to get 'stuck in' when addressing differences of opinion. They value the team, but only if the team is contributing to their vision of things – therefore they don't necessarily get influenced by the team. They thrive on variety and can be restless, hating to feel 'boxed in'.

Forceful people can very easily move to an authoritarian style, especially when the culture of the organisation supports or condones this, e.g. in the military where the crucial Resolving Style in Conflict Handling has been found to be low and not high. As indicated in Table 4 it is encouraging to see that Resolving features, since we find that the ability to surface issues, debate them and find closure are key elements in working through the inevitable conflicts that managers encounter.

We see evidence of the lower Agreeableness that Adrian Furnham identifies (as reported in Psyche 64), but the fact that Affiliation appears in the Factor Analysis would tend to show that these managers are perhaps less likely to drift into an authoritarian style.

The dislike of Detail, compounded to a degree by the higher Active and lower Pragmatic preferences, would need to be handled carefully since people naturally uninterested in detail can get bamboozled by detail freaks – see the relationship between senior bankers and 'quants' that contributed so much to the financial crisis. Adrian also warns about the downside of too high an openness to experience.

There is a strong strand of creativity being shown, both New Ideas and Ingenuity. This would also tie in with our experience working with higher Development Curve individuals. On the other side of the coin there is a clear dislike of routine, procedure and having to conform to what others think.

The strongest connections between Development Curve and these psychometric dimensions are with the Stimulus Control (negative) and Managerial Style (positive) measures. This supports the tendency for higher Development Curve individuals to seek more stimulating roles with change and variety. It is also unsurprising because the elements that comprise the Managerial Style measure (Supervisory Ability, Achievement Motivation, Self Actualisation, Self Assurance and Decisiveness) would likely be present in many higher Development Curve individuals, nicely supporting Adrian's requirement for achievement orientation.

This study indicates that we are likely to see a clear psychometric profile emerging from people of different cultures who are found to be higher in Development Curve. We therefore intend to maintain a running analysis as more results come in from subjects who have experienced both appreciations.

This is an edited extract from a more detailed Research Note available on request from EDAC or Bioss.

Creativity & Innovation

Reflections on Mark Batey's presentation at the Psychometrics Forum event on the 26 September 2012

John Jackson – Fusion Leadership

John Jackson

Creativity and innovation are increasingly seen to be a key differentiator between survival and disaster for many organisations. Some notable British success stories where innovation is seen to be the key ingredient in achieving world-wide recognition include James Dyson and his ubiquitous vacuum cleaners, and perhaps Mike Lynch, founder of Autonomy, a major UK IT success.

So organisations should be asking who their best innovators are and how to develop all their people to increase creativity and innovation. Dr Mark Batey has a strong background of research in the psychology of creativity, which ultimately led to his development of the '**me²** General Factor of Creativity' inventory. The good news from Mark is that we do not all have to aspire to be like James Dyson. As with so many aspects of organisational success, it's a matter of assembling teams of people with complementary skills and preferences.

The **me²** questionnaire is framed around a model of creativity 'style', based on four dimensions or 'categories': Idea Generation, Personality, Motivation and Confidence. These categories in turn are operationalized by:

- Idea generation – fluency, originality, incubation, illumination
- Personality – curiosity and ambiguity
- Motivation – intrinsic, competitive, achievement
- Confidence – producing, sharing and implementing

The **me²** tool has been developed over a period of 10 years or so. A sten score of between 3 and 7 on the **me²** model represents 'typical', or approximately 67 % of the population. But we need to consider not only the positive side but also the negative for each factor contributing to creativity – the 'dark side of creativity' perhaps?

Part of the challenge of creativity is that we seem to produce our best ideas in 'down time'. Mark cited Margaret Boden (Sussex University) who refers to this as 'Bed/Bath/Bus moments'. In other words we can try too hard to be creative. Arguably, few problems are solved in a brainstorming session. Research by Diehl and Stroebe (1987) suggested that brainstorming is generally ineffective in producing new ideas; and groups are often not the best medium for this.

Allowing time for ideas to develop and incubate is invaluable. Mark refers to this as using our 'cognitive slack'. We need to harness our non-conscious capability. Mark suggested that, if our conscious thought is the size of an orange, our non-conscious capability would be the size of a room. We have to find ways of tapping into this if we are to build our creativity.

Mark facilitated a group discussion of some **me²** sample profiles. The key process questions in each case were: What do we see here? And, how might we help this person become more effective? This discussion identified at least four potential applications for the **me²** toolkit:

- Building self-awareness
- Assessment
- Development
- Team development/creativity in teams

The group then worked through the positives and negatives that

come from high and low scores for Incubation, one of the **me²** sub-factors for Idea Generation. A positive outcome from a low score on Incubation could mean quick executions and time efficiency, but the negative side could mean ideas not being thought through and a 'Duke of York' mentality where people were marched quickly from one bright idea to the next. On the other side, a positive conclusion from a high Incubation score might mean rigorous thinking, practical implementation and more mature ideas. The negative side could mean 'analysis paralysis' and good ideas being killed, together with general procrastination. All this could provide the basis for some rich feedback and coaching.

Mark pointed to the need to secure different views and diversity in building truly creative teams and a creative environment. Excluding the obvious measures of age, gender and ethnicity, the audience came up with other possible types of diversity factors such as:

- Education
- Status/roles/levels within the organisation
- Idea Generation, Personality, Motivation and Confidence
- Income/salary levels
- Employed/unemployed
- Functional variety
- Locational differences
- Cultural differences (where there was a neat link to the morning session)

Diversity was seen by Mark to be key to creativity. It produces different 'connections' within an individual; it also produces different 'chain reactions' between people.

Mark Batey speaking at The Psychometrics Forum

So what's the best route to getting people to work creatively? For Mark a good start is to have people work in a variety of modes. One solution is to adopt the '1:2:1:8 Incubate model'. This avoids danger of cross-contamination of ideas by getting people to work alone to start with. They are then paired up to share their ideas, and then put back into individual working to refine the ideas. The process concludes with a brainstorming session involving the full group, e.g. 8 people in this example.

This approach overcomes some of the limitations of brainstorming, since the brainstorming session here is the culmination, rather than the sole element, of the creative process. The 1:2:1:8 model can also include another phase of 'mixed doubles', where people work in different pairings before progressing to a final brainstorm. A recent study (Isaksen & Gaulin, 2005) has shown that when teams are facilitated during idea generation they can produce 400% more ideas in comparison to teams that work without a facilitator. Some of the facilitated teams increased their productivity by 600%.

There is also a need to balance top down and bottom up processes. In other words, ideas cascading down the organisation can be strengthened and enriched if these are cross-fertilised with ideas percolating up from below. In a similar vein Mark was generally sceptical of core competency frameworks, and especially their use in predicting creativity and innovation. Creative thinking scores show typically no more than about 0.2 correlation with interviews. Similarly, correlations of predicted creativity with MBTI outcomes were no better than approximately 0.1, with Big 5 correlations at a similar level. In other words, it is hard to predict CI from existing selection techniques.

Towards the end of the session Mark introduced the Forum to a creative process referred to as an 'Ideas Factory', which can be used to develop new, creative angles for any product or service. An adventurous audience chose KY Jelly as the product for us to review. The starting point is to list 'things we know about this product', and the next is to ask 'So what could we do differently?' for each item on the list. This enables participants to identify the flip side of each of the known characteristics. The third phase is to synthesise elements of the 'different' list into groups. The process

ends with a force field analysis of the new/different idea groups.

Mark closed his session with a case study of work being undertaken with a large UK media company. This project involved the use of **me²** to gauge initial creativity, then getting people to work with a combination of both 'development partners' and, later in the process, 'challenge partners'.

In summary, Mark's presentation introduced the Forum to the potentially valuable **me²** tool as a way of assessing and developing creativity. The resulting profiles provide an excellent base from which coaching in creativity can be taken forward and/or group initiatives as shown in Mark's media company case study can be implemented.

NOTE: SPECIAL DEAL for The Psychometric Forum members

Members of The Psychometric Forum are being offered accreditation for the **me²** questionnaire at the special price of £200. Please contact Gail Royce at gail@e-metrixx.com for further details.

The Use of Psychometrics in Assessment Centres: 'Best Practice' and Current Usage

Philippa Riley – Senior Consultant, Product Development Assessment and Development Consultants

Strong advocates of Assessment Centres (ACs) urge that psychometric tests should be used in such centres with caution (Woodruffe, 2000; Ballantyne & Povah, 2004). Whilst evidence indicates that ACs show incremental validity over tests of cognitive ability and personality (eg Dayan et al, 2002; Goffin et al, 1996), in practice care needs to be taken to use them fairly and effectively in this context.

This article profiles the current international usage of psychometric tests within ACs, and then discusses 'best practice' around the employment of these instruments within such contexts.

Current Practice in the Use of Psychometrics in Assessment Centres

A recent survey undertaken by a&dc in collaboration with Colorado State University aimed to establish current practice in the application of ACs around the world (Hughes et al, 2012). The largest survey of its kind, it included questions relating to the design and implementation of these events. One part of the survey asked respondents to indicate what other assessment methods, in addition to simulation exercises, were used in their ACs.

Figure 1 shows the proportions of ACs in which psychometric tests were used, analysed by the primary purpose of the centre. Centres were classified into those focused on selection, those focused on development and those with an equal emphasis on selection and development. Cognitive ability tests and personality questionnaires were more popular across all three purposes than motivation/values questionnaires or

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Situational Judgement Tests (SJTs), with each being used in around a half of all Centres.

The popularity of each method varied by purpose of the AC. Personality questionnaires were markedly more popular for centres with a development emphasis compared to a focus on selection (62% of development-focused ACs used personality questionnaires, compared to 46% of selection-

focused ones, p<.05). The opposite pattern was true for cognitive ability tests, which were used in 43% of development-focused ACs, and 50% of selection-focused ones, although this difference was not found to be statistically significant.

Although usage was generally low, SJTs were more popular for selection than for development. The pattern for motivation/values questionnaires was less clear.

The use of psychometric tests in ACs was also analysed by continental region. The results from this analysis are shown Figure 2. Cognitive ability tests, motivation/values questionnaires and personality questionnaires were least popular in North America and Asia. Conversely, use of these tests was high in South and Central America and Oceania, with use of personality questionnaires also popular in Africa and Europe.
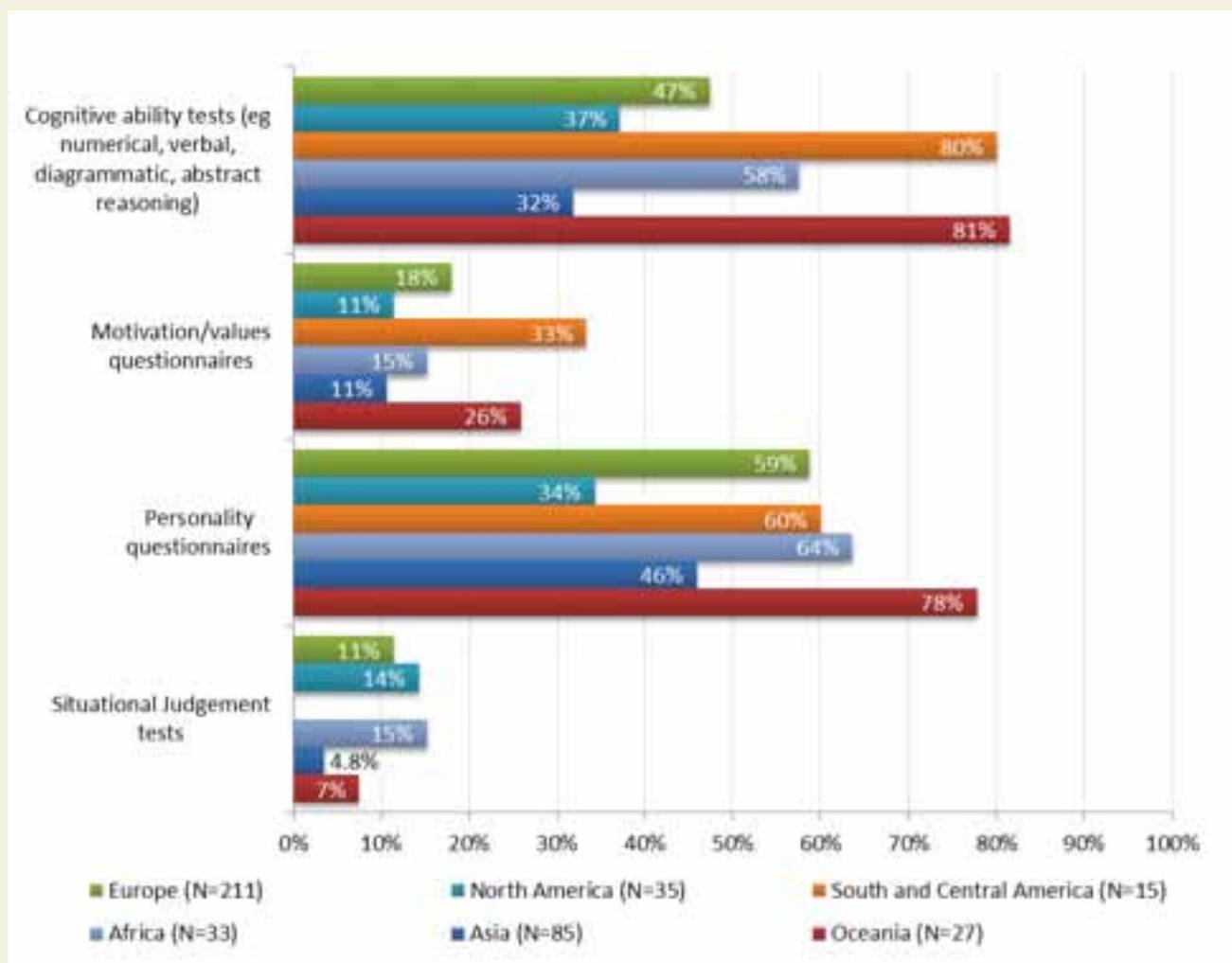
Psychometrics and ACs: What is Best Practice?

It is clear from this research that psychometric tests are being used extensively with ACs. While general guidance regarding the use of psychometric tests is available (e.g. International Test Commission, 2000), best practice regarding psychometrics specifically within ACs is limited. The current international guidelines on ACs (International Taskforce, 2009) make little reference to the use of tests, and the British Psychological Society guidance on ACs (BPS, 2011) is limited to the need for staff to be appropriately qualified in test use and how they will be applied in the centre. While many of the principles around using psychometrics in ACs are the same as for more general usage, there are issues that are specific to the use of tests within an AC that need to be considered.

Firstly, Woodruffe (2000) points out that the decision to use a test in an AC may often precede an assessment of its relevance. Therefore, consideration needs to be given to 1) whether a test is appropriate (i.e. the relevance of the construct being assessed, psychometric properties etc) and 2) whether that test will 'add value', either in terms of validity or on more

Figure 1: What assessment methods, other than simulations, are used in the Centre?

Cognitive ability tests (eg numerical, verbal, diagrammatic, abstract reasoning)
- 47%
- 37%
- 80%
- 58%
- 32%
- 81%

Motivation/values questionnaires
- 18%
- 11%
- 33%
- 15%
- 11%
- 26%

Personality questionnaires
- 59%
- 34%
- 60%
- 64%
- 46%
- 78%

Situational Judgement tests
- 11%
- 14%
- 15%
- 4.8%
- 7%

■ Europe (N=211)   ■ North America (N=35)   ■ South and Central America (N=15)
■ Africa (N=33)   ■ Asia (N=85)   ■ Oceania (N=27)

qualitative criteria (such as the insight it might provide for feedback purposes). Ideally, a statistical analysis of the performance of the test should be undertaken, such as the test's ability to predict job performance or its relationship with a given competency.

Secondly, which tests are appropriate in which contexts? In our experience, maximal performance measures, such as cognitive ability tests, are more useful on selection-focused ACs than on development-focused ones. This view appears to be reflected in international practice as detailed above. While the proven validity of such measures may improve a selection decision, the limited capacity to develop the abilities measured can make them problematic in a development context. Consideration also needs to be given to how and where such a measure is incorporated in the AC process. One method might be to include the test as one measure of a related competency (e.g. problem analysis). However, this can be problematic as competencies are generally both broader and less discrete than the abilities assessed in a specific test (Wood and Payne, 1998). A test score could also be considered as a 'verification' or 'secondary evidence' once the behavioural assessment has been conducted. However, if this results in a cut off score or score banding being applied then it may be more valuable to use the test as a pre-filter, saving the time and resources required to run an AC for candidates who do not meet the required benchmark.

Typical performance measures (e.g. personality measures) necessitate additional considerations. As they are of most value alongside a feedback interview, quantifying this output to feed directly into an AC may be difficult – particularly if the focus of that AC is selection. In our experience, we have found these questionnaires to be of greatest value in supporting the feedback process within a Development Centre, with participants being provided with their test feedback prior to undertaking their development planning. In this context, such tools can add to the quality of the feedback provided, allowing for the candidate to reflect on their motivation and preferences as well as their capability demonstrated through behavioural simulations.

Summary

It is clear from our research that psychometrics are used extensively alongside the behavioural simulations typically used in ACs, and that levels of usage vary depending on the purpose of the Centre and geographical region. While this research provided a broad indication of usage, it did not focus on how such tests are used, and it is likely that behind these figures lies a diversity of applications and variations in the quality of practice.

It seems that specific guidance around the use and integration of psychometrics within ACs is lacking, with usage of such tests in this context falling in the gap between best practice guidance on the use of psychometric tests more generally, and those for ACs. In this article, I have attempted to highlight some of the factors that need to be considered when using psychometrics in ACs, but further guidance around this area would be extremely valuable for practitioners given the extent of their usage in ACs across the globe.

References

Woodruffe, C. (2000) *Development and Assessment Centres: Identifying and Assessing Competence* (3rd Ed) CIPD

Dayan K, Kasten, R., and Fox, S. (2002) Entry-level police candidate assessment center: Efficient tool or hammer to kill a fly? *Personnel Psychology*, 55, 827–849;

Goffin, R.D., Rothstein, M.G. and Jognston, N.G. (1996) Personality testing and the assessment center: Incremental validity for managerial selection. *Journal of Applied Psychology*, 81, 746–756

Hughes, D., Riley, P., Shalfrooshan, A., Gibbons, A. and Thornton, G. (2012) *A Global Survey of Assessment Centre Practices* available at: http://www.adc.uk.com/page.aspx/239/Research_Findings

Ballantyne, I. and Povah, N. (2004) *Assessment and Development Centres* (2nd Edition) Gower

International Test Commission (2000) *International Guidelines on Test Use* available at: http://www.intestcom.org/upload/sitefiles/41.pdf

International Task Force on Assessment Center Guidelines (2009) Guidelines and ethical considerations for assessment center operations. *International Journal of Selection and Assessment*, 17, 3, 243–253.

British Psychological Society (2001) *Assessment and Development Centres* available at: http://www.psychtesting.org.uk/the-ptc/guidelinesandinformation.cfm

Wood, R. and Payne, T. (1998) *Competency Based Recruitment and Selection: A Practical Guide.* Wiley

Using Trait Psychometrics to Improve Selection

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In recent weeks, I got drawn into a discussion on 'Personality Types' hosted by the Psychometrics for Selection & Development Linkedin group. The person starting the discussion had become enamoured of personality *type* instruments in the context of career counselling and team development and was enquiring about other potential uses. In the discussion which followed it emerged that categorical typing psychometrics were very popular, client friendly but potentially risky for use in making hard judgements of people, e.g. for selection. In contrast, *trait* instruments were less popular and a lot more difficult to interpret but, arguably, based on sounder psychometric principles. Typically, the computer-generated report for the client organisation would consist of a fairly diffuse narrative based around the Big Five factors but not necessarily using the conventional Big Five labels. Were such a report all that was given to the recruiter, he or she would struggle to be guided by its content towards a selection decision.

Reflecting on this issue, I recalled a very interesting landmark report (Dawes et al., 1989). This showed, very convincingly, that decisions based solely on data, which had been found to be empirically related to performance (Actuarial judgments), were significantly more accurate than those by experts who processed information in their heads (Clinical judgments). One of the key factors which produced this effect is that data-driven decisions are more reliable (repeatable) than expert interpretations since expert opinion, even by the same person, can vary from day to day.

In the course of my career in corporate HR, I commissioned two attempts to provide automatic computerised actuarial judgements for senior management appointments based on 16PF Form A scores. The first of these attempts provided profile similarity co-efficients (Cattell et al. 1970, p.141 *et seq*) matching each candidate with the average profiles for a number of management roles. As I reported in an issue of *Psyche's* predecessor (McCredie, 1993), above and below average profile similarity co-efficients predicted above and below average effectiveness ratings in two out of three cases. A much higher 'hit rate' was achieved when the computer was reprogrammed to match candidate profiles with different performance levels for each of the roles.

I am largely retired from practice but a few months ago I was prevailed upon by a psychologically literate consultant friend, who was not qualified as a tester, to arrange for his client's candidates to complete 16PF5.

The friend expected me to offer more focused advice on each candidate which he could share with his client. In the absence of computerised role matching facilities, I pondered about how I could respond to this request helpfully and economically. In the end, I decided to relate each candidate's scores to a large sample of UK managerial applicants tested by Bartram (1992), using 16PF Form A and also my own findings as to which 16PF Big Five approximations correlated with managerial effectiveness generally and for various core managerial roles. All of this information is featured in *Selecting and Developing Better Managers* (McCredie, 2010).

The role for which selection was taking place was that of operations manager. I append below a fictitious example of the additional information which I supplied to my friend alongside the standard, computer-generated, 16PF5 Manager Report.

Global Factor	Description	General Population Percentile	
		Average manager	*Candidate*
Extraversion[+] *Relating to others*	Social orientation; the desire to be around others and be noticed by them; the energy invested in initiating and maintaining social relationships.	86	40
Anxiety[(-)] *Management of Pressure*	Negative emotions experienced and their intensity	12	1
Self-control *Structure and Flexibility*	Response to environmental controls on behaviour; internal self-discipline	73	89
Independence+ *Influence and collaboration*	The role a person assumes when interacting with others; the extent to which they are likely to influence or be influenced by the views of other people.	89	40
Tough-mindedness *Thinking style*	The way a person processes information; the extent to which they will solve problems at an objective, cognitive level or by using subjective or personal considerations.	46	40
Abstract thinking (IQ)[+]		81	77

[+] high score predicts managerial success; [(-)] Low score predicts managerial success

On the basis of this information, I was able to offer the following focused opinion:

> *The candidate's 's low anxiety and high self control are likely to be his greatest managerial strengths but his low average extraversion is marginal and his low independence and toughmindedness scores are of concern in relation to managerial work generally and operations management in particular.*

I suggested to the Linkedin discussion that if we test users were able to offer sufficiently forensic and focused advice to HR and line management selectors, this would promote the use and impact of trait-based psychometrics in selection. This means that we have to spend more time in relating the findings of relevant research to the client's immediate needs. If we are testing frequently for the same roles this could be done automatically, by computer, using our own norms; otherwise we could still do it manually, as above, against the closest available published data.

References

Bartram, D. (1992). The personality of UK managers: 16PF norms for short-listed applicants. *Journal of Occupational and Organizational Psychology*, 65, 159–72.

Cattell, R. B., Eber, H. W. & Tatsuoka, M. M. (1970), *Handbook for the sixteen personality factor questionnaire (16PF),* Champaign IL: IPAT

Dawes, R. M., Faust, D. & Meehl, P.E. (1989) Clinical versus actuarial judgement, *Science* (new series), 243, 4899, 1668-1674

McCredie, H. (1993), High volume/Low budget 16PF, *16PF Newsletter*, 4

McCredie, H. (2010). *Selecting and developing better managers.* London: Lulu Enterprises

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16th October 2012.