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| **2nd Place**                                              | |
| Zyvo Adaptive Personality Questionnaire: Power to predict – a novel approach to measuring personality and predicting job performance | |
| Lamin Kinteh and colleagues, Zyvo | |
Dear colleagues,

Welcome to the first newsletter of 2017 and my first newsletter as Editor having taken over from Adrian Starkey. Large shoes to fill after his valued contribution and so I’ve started as many new-to-post and keen-to-make-a-good-impression newbies do by changing how the newsletter looks! Working closely with Georgia Styring we have given the newsletter a more contemporary look which will hopefully make it easier to navigate. The content remains the same; providing reviews of our past events, but this edition also includes brief introductions to the committee members of TPF as we have had a few changes in roles and responsibilities lately with a few more to come in the following months which I will keep you informed of. Our current treasurer Paul Papadopolos will be stepping down from the committee and we are looking for someone to join us to take over his role. If you, or anyone you know are interested in becoming treasurer for The Psychometrics Forum then please contact any of the committee members or look on our website for a job description.

This edition provides reviews of both the September 21st event on Emotional Intelligence with presentations from Dan Hughes and Peter Clark from JCA and Stuart Dessen and Julie Ensor from Lumina Learning as well as coverage of our 22nd November New Frontiers in Psychometrics event. This year the Vice-Chair of TPF, Dr. Hugh McCreddie contributed to the event alongside Wendy Lord, Professor Stephen Woods and Dr. Anant Bardi where they explored moves towards a periodic table of personality.

The mulled wine event following afterwards also saw the presentation of our Practitioner Excellence Award and we reproduce the winning posters here as well as showcasing them on our website.

And finally, we have a new journey to embark on with Hugh McCreddie as he begins his Introduction to Pioneers and Landmarks in Intelligence Testing series where he will lead us through a controversial past where eugenics and racism are a marker of less enlightened times. In this issue he introduces the series and shares with us the influence of Sir Francis Galton on our psychometric past. As with the previous series Hugh shared with Psyche, these articles appear here by arrangement with the British Psychological Society as they will soon appear in Assessment & Development Matters.

I look forward to my new responsibilities as Editor and I hope to see some of you at the next event on the 8th March where we will explore Psychological Myth Busting with Dr. Hugh McCreddie and Alan Redman from Criterion Partnership.

Tameron
The Psychometrics Forum

Committee members

NICHOLAS BENNETT
Nicholas is CEO and Chairman of Ledborough Associates, Chartered Psychologist, HCPC Registered Occupational Psychologist, Chartered Fellow of the CIPD, C. Scientist, RAPPS Accredited BPS Supervisor and Principal Member of the ABP. Nicholas’ main interests centre around talent management, psychometrics including emotional intelligence, personal counselling, senior executive coaching, team development, organizational development and reward management. Previously UK Head of a major US Consultancy. He has been a Committee Member of TPF since 2007 when it was in its original carnation as the 16PF Committee. He regularly organises and chairs selected meetings.

RAJ CHOPRA
Raj is a Senior Consultant within Korn Ferry’s Leadership and Talent Consulting team, based in their London office. His areas of focus include assessment and succession management, competency model design and implementation, team facilitation, leadership development and coaching, talent strategy development and culture and change management. His experience spans several industry sectors, including; financial services and private equity, professional services, engineering, manufacturing, and consumer. Raj holds master’s degrees in both Occupational Psychology, from the University of Nottingham and in Experimental Psychology from The University of Oxford, Balliol College. His research at Oxford focusing on psychological factors impacting performance under stress has been published. Raj has been a committee member since 2012 and is editor of TPF’s blog – Fresh Perspectives in Psychometrics and Psychology, which has been viewed by over 35,000 individuals globally, to date.

TAMERON CHAPPELL
EDITOR OF PSYCHE: THE NEWSLETTER OF THE PSYCHOMETRICS FORUM
Tameron is a Chartered Psychologist, HCPC Registered Occupational Psychologist and Associate Fellow of the BPS. She started her career in academia with the traditional route through research to lecturer and back to research. In a move to Japan for 3 years she found applying psychology in a business setting more rewarding and started working as an independent Business Psychologist through her own company and associate links. She specialises in team dynamics, senior leadership team and Board development, virtual teams and networks, and is interested in diversity in its broadest interpretation in terms of personality and culture as well as gender and ethnicity. She has worked as a coach, mentor and facilitator across a wide range of organisations and sectors and is currently working at Harvey Nash in their Executive Search team using psychometrics to support selection and development of senior executives and Boards. Tameron had been attending events for many years before she was co-opted onto the committee in 2014 to help establish a training offering for the members. To avoid any potential conflict of interest she left the committee for the 12 months when she worked for a test publisher but after a change of employer has returned to the committee and has taken over the role of Editor of Psyche.

TRISH GUTHRIE
Trish joined TPF in 2010 and became a committee member from March 2015. She is an independent Business Psychologist, with an MSc in Occupational and Organisational Psychology and has been using psychometrics within recruitment, selection and talent management for over 15 years, including work for the Civil Service and a number of financial institutions. Recent assignments include
career coach for recent graduates, visiting lecturer in organisational behaviour, at Westminster Business School and student support advisor at Plymouth College of Art.

On the Committee Trish has been involved in administration of the website and events.

**DR. KATE HAMMOND**

Kate is a Business Psychologist/Lecturer with an MSc in Occupational Psychology. She joined TPF in 2014 and has been an active member of the LinkedIn group for several years. Kate is trained in a variety of psychometrics and has taught Level B/TU-OP for several years. Currently she spends most of her time teaching at the Open University in the Psychology Department and Business School. She volunteers at VSO as an assessor. She was a late-comer to psychology, having had a variety of careers, including Deputy Head, photo-journalist in Germany, civil servant working at No10 and saxophone/bassoonist in the Royal Gibraltar Regiment. Her PhD looked at political spin and soft power in Republican Rome, and her particular interests are social identity and leadership. Her work for the committee focuses on the website and she tries to attend as many TPF events as possible alongside bringing up twin daughters and running after two labradoodle puppies.

**LYNNE HINDMARCH**

Lynne is a Business Psychologist and a member of the BPS Special Group in Coaching Psychology. Lynne joined TPF in 2000 and has been a committee member since 2008. Lynne is an independent practitioner whose work includes executive coaching and coaching supervision, facilitation, team development, career counselling and assessment for selection. She uses psychometric tools extensively as part of her practice. She has presented at and co-chaired a number of Forum events over the years, and is a regular contributor to Psyche.

**XANTHY KALLIS**

Xanthy is a Chartered Occupational Psychologist and Associate Fellow of the British Psychological Society and has been the Chair of TPF since 2009. She is a Career Coaching Psychologist and a Senior Lecturer at the University of Westminster. Her area of expertise is coaching young people especially at the A Level stages of their studies as well as undergraduates and graduates. She has been involved in the Forum since 2003 when she was introduced to this unique group and felt immediately part of it! She was co-opted as a member of the committee almost immediately and thanks to the warmth and willingness of the group to share their expertise and knowledge she was confident enough to take on the role of Chair in 2009. It is thanks to the committee’s support and the excellent mentoring from Ann Rodrigues (the outgoing Chair) that she has thoroughly enjoyed this role.

**CARO LEITZELL**

Caro is the administrator for the group. Caro has been working in this role for several years alongside the committee and treasurer. Her main tasks include: general maintenance of the members and non-members databases, coordination of meetings from sending out of invitations, collecting bookings and payments, issuing meeting documentation and receipts, liaising with the venue and providing the committee with any administrative support required, responding to enquiries from members and non-members, coordination of membership subscriptions and issuing Newsletters and mailshots as required.

**DR HUGH MCCREDIE**

Hugh is a Chartered Psychologist, Chartered Fellow of the CIPD and Associate Fellow of the BPS. He is a retired practitioner now researching/writing on psychometric topics and issues and is a frequent contributor to Psyche and BPS Assessment & Development Matters. He is the longest-serving member and Vice-chair of TPF committee where he is the main contributor on constitutional matters. He initiated and organises the very popular annual “New Frontiers in Psychometrics” event.

**PAUL PAPADOPOULOS**

Paul has a BSc in Accountancy and oversees income and expenditure and prepares the accounts for annual audit for TPF. He is practice accountant for a firm of London solicitors.

**DR JANE POLLOCK**

Jane is a Chartered Psychologist and Associate Fellow of the BPS. She completed her PhD in Cognitive Ergonomics at Cardiff and then included an MSc in Occupational Psychology at Bristol. She has many years’ experience lecturing in Psychology and Statistics, and is currently an independent consultant, working with a number of
companies in psychometric test development. She mixes this with lecturing and tutoring in Psychology related to Business, and Statistics, at the University of Oxford. As the training Co-ordinator she is taking the lead in training events for the TPF and plans to raise the TPF profile with members, non-members and test publishers through this activity.

ADRIAN STARKEY
CO-ORDINATOR OF THE ANNUAL EXCELLENCE IN PSYCHOMETRICS AWARD AND MANAGES TPF’S LINKEDIN GROUP

Adrian is a Chartered Psychologist and Associate Fellow of the BPS. He has been a TPF committee member since 2010, having contributed primarily as Editor of Psyche for 20 editions (57–76). He stood down from Psyche in Autumn 2016 due to his ongoing responsibilities working in the Middle East for an Oil & Gas NOC as an HR & Talent Manager. Adrian’s early career was with some of the leading UK and US based assessment and development organisations and he holds the dubious distinction of having worked for ASE, OPP & SHL as well as DDI (twice). He has in-depth practitioner experience in the majority of the most widely used assessment tools – 16PF, MBTI, FIRO-B, OPQ, PAPI, Hogan & Saville Wave etc. Although now contributing at a distance by managing TPF’s international presence on LinkedIn (we currently have over 5500 affiliates from around the world). Adrian also helps TPF through his in-depth industry knowledge and contacts and by coordinating the annual Excellence in Psychometrics Award.

ANDREW WEST

Andrew has attended TPF events for many years and recently joined the committee. He is a Chartered Psychologist and a Chartered Fellow of the CIPD. He has worked with BAT as Head of Recruitment and Selection and then as their Personnel Operations Manager in the Far East. He was a Senior Advisor with the United Nations in New York and HR Director for Africa and the Near East with Johnson Wax. As a consultant, he is able to draw on his experience both as a senior HR professional and as a Chartered Psychologist to give clear, practical and jargon-free advice to senior managers and HR practitioners. Assignments include mergers and acquisitions, assessment centre design, psychometric assessments and executive coaching for senior managers throughout the world.
1 Introduction to the series

This series of articles follows that entitled ‘Heroes, landmarks and blind alleys in personality assessment’ the drafts of which appeared in *Psyche* between Autumn 2013 and Autumn 2016. The current subject matter is, potentially, much more controversial than its predecessor because some of its early luminaries identified themselves with eugenics, whilst other have been accused of racism, or both. This is a pity, since all of the human psychological characteristics, intelligence predicts occupational performance best (Schmidt & Hunter, 1998).

However, as a later controversial figure, Arthur Jensen (2002, p. 146) pointed out ‘prescriptive eugenics falls not in the purview of science, but in the province of moral philosophy’. Thus, as mere psychologists and/or test-users, we are concerned mainly, if not only, with the utility and fairness of the instruments which we use. Notwithstanding this distinction, I am personally inclined to the view of C. S. Lewis (1943/2009), that I wouldn’t trust any human being to have sufficient mental capacity, let alone the impartiality, to identify all of the proximal and distal consequences of implementing a social engineering project on the scale of selective human breeding.

Another negative aspect of the material which we shall encounter is, what would now be regarded as, the highly pejorative labels used to categorise those with learning difficulties. This remains the case however well-intentioned were these early attempts to identify, objectively, and respond to those with special needs.

As with the Heroes series, ‘Pioneers’ is a journey of exploration into the history of psychometrics. As you read this article, I will have drafted the first five episodes but the whole is still a work-in-progress. I invite you to join me in making this journey into our past.

2 Identifying the Gifted: Francis Galton (1822–1911)

Who was he?
Sir Francis Galton, FRS was a remarkable Victorian, born in Birmingham, who shared a common grandfather with his cousin Charles Darwin (1809-1882). He is frequently styled as a ‘polymath’ and was experienced as a tropical explorer, geographer, anthropologist, inventor, psychologist, sociologist, statistician, meteorologist, eugenicist, and psychometrician. Although not formally qualified in any of these fields, save for a pass degree in Maths, he published frequently in all of them and arguably ‘invented’ the last two. Terman’s (1917) estimate of Galton’s IQ at 200 would have been at least as high as that of the ‘illustrious’ people whom he studied, as defined below. Although he was an independent researcher for most of his life, he was associated with University College London (UCL) from 1894 where he influenced others who will feature in this series.

Hereditary Genius (1869/1892/2000)
This was the title of Galton’s first major publication in the domain that we now know as intelligence. As he explained in the ‘prefatory chapter’ to the 1892
Edition, ‘The primary object was to investigate whether and in what degree natural ability was hereditarily transmitted’ (p.x). As Jensen (2002, p.147) explained, Galton ‘recognized...that the hereditary component of “natural ability” is, at least in part, a “general cognitive ability” that could be manifested in many different kinds of intellectual achievement’

**Galton’s early Statistics**

In the infancy of both Psychology and Statistics, this was a truly landmark study with imaginative use of what was available. The pivotal statistical construct of the research was Quetelet’s (1842, 1968) ‘law of deviation from the average’, better known to us as the regular bell-shaped distribution curve for many human attributes. With regard to ability, Galton was able to demonstrate, empirically, that the marks obtained from Royal Military College at Sandhurst in December 1868 ranged ‘according to the law of deviation from an average’ (pp. 3233).

**Heritability hypothesis**

Galton tested his hypothesis on the heritability of general ability amongst the top two echelons of the, exclusively male, general population in terms of their reputation. He differentiated between the ‘eminent’ and the ‘illustrious’ of history by which we can infer from the data (p. 34) were the top 0.23% and the top 0.013% of the population, respectively. He chose these subjects because data on their ancestors and progeny were the most accessible. His specific hypothesis was that the illustrious would have more and closer familial relationships with other distinguished individuals than would the merely eminent.

Support for the hypothesis came from a variety of occupational groupings: English judges, British and other statesmen, great military commanders, literary figures, scientists, poets, musicians, painters, religious figures and academics.

Galton was emphatic that the root of greatness was heritable ability not class advantage:

> I speak of those among them who are of humble parentage, but have brilliant natural gifts—who attracted notice as boys, or, it may be, even as children, and were therefore sent to a good school. There they won exhibitions and fitted themselves for college...The parentage of the Lord Chancellors justifies my statement. There have been thirty of them within the period included in my inquiries. Of these... Lord Eldon (whose brother was the great Admiralty Judge, Lord Stowell) was son of a “coal fitter;” (p.56).

Before we get carried away with Galton’s dismissal of class advantage, it needs to be pointed out that his ‘coal fitter’ was a member of an elite merchant class which, by ancient Royal Charter, controlled the transport of coal from the River Tyne. Note also that he was studying only distinguished males. Contemporary culture ensured that there were few eminent or illustrious females recorded. It is far from certain that all natural talent would have risen to the top. Galton went on to argue that what differentiated the two highest levels of ability would apply across the remainder of the distribution.

**Regression to the mean**

Since our inherited attributes derive from both parents, Galton suggested that these would emerge at a level somewhere between those of our mothers and fathers and, over time, the national distribution would tend to be more concentrated around the mean. He supported immigration of the more able to counterbalance such a tendency and cited the beneficial impact of the Norman conquest and Huguenot refugees. He believed that the most able in Britain were of lesser ability than those of ancient Greece and blamed the church for promoting celibacy amongst the most highly educated. He also criticised the practice of aristocrats marrying wealthy heiresses seeing the latter as carriers of low-fertility characteristics; a more prolific family would have experienced no difficulty in producing male heirs.

**Eugenics**

Galton invented this term and was concerned to advocate measures to improve that nation’s stock of ability. He wrote:

> I shall argue that the wisest policy is, that which results in retarding the average

*He believed that the most able in Britain were of lesser ability than those of ancient Greece and blamed the church for promoting celibacy amongst the most highly educated.*
age of marriage among the weak, and in hastening it among the vigorous classes; whereas, most unhappily for us, the influence of numerous social agencies has been strongly and banefully exerted in the precisely opposite direction. (pp. 352-353)

His later writing laid most stress on the fecundity of the able and he bequeathed funds to support a Chair of Eugenics at UCL.

Inquiries into human faculty and its development (1883/1907/2004)

This book reports Galton’s, mainly unfruitful, search for tangible measures of intellectual ability. His first enquiry explored whether the most able could differentiate more grades of ‘just perceptible differences’ to sensory stimuli. He concluded simply ‘The discriminative faculty of idiots is curiously low’ (p. 19). He then turned to the quality of mental imagery, concluding ‘an over-ready perception of sharp mental pictures is antagonistic to the acquirement of habits of highly-generalised and abstract thought’ (p. 60). In what he called ‘psychometric experiments’, Galton attempted to record data from his own introspections concerning the recall of remembered associations from the unconscious.

History of twins

In the most rewarding section of the book, Galton reports on the use of questionnaires to gather data, first attempted in his mental imagery work. He also reports interesting findings with regards to heritability in general:

We may... broadly conclude that the only circumstance, within the range of those by which persons of similar conditions of life are affected, that is capable of producing a marked effect on the character of adults, is illness or some accident which causes physical infirmity. (p. 168)

This was a small study (n=35) and did not enquire about ability but it demonstrated the usefulness of twins in measuring the extent of the heredity element in human attributes.

Anthropometric laboratories

Galton established the first of two London laboratories at the International Health Exhibition of 1884 and a more permanent one in the South Kensington Museum in 1888. Both were dedicated ‘for the measurement in various ways of Human Form and Faculty’ (quoted in Pearson, 1924, p. 359). In a paper to celebrate the centenary of Galton’s first laboratory, Johnson et al. (1985, p. 876) tell us:

Each testee, typically a visitor to the museum, paid three pence... for his or her assessment. The testee received one copy of his or her measures, and Galton kept a second set. [Measures were a] variety of physical and functional dimensions, [including] reaction time to visual and to auditory stimuli.

They also relay to us the ingenious method, involving a pendulum, which Galton devised to measure reaction times (p. 877) and tell us that he collected data from about 7,500 respondents. However, in a pre-electronic age with less developed statistical methods effectively processing the material was not easy.

Johnson et al. (1985) used analysis of variance to re-process the usable data on 6488 on Galton’s original respondents (p. 876). Of most interest to the current series, they found (p. 889) significant negative relationships between occupational class and visual response times (p < .001) and audio response times (p < .05). This was despite the relative unreliability of the measures (r .21 and r. 24 respectively) (p. 879). They commented:

It is now well established... that a reliable measure of reaction time can be obtained only when many separate measures of reaction time are taken in a given test series. As far as we can ascertain, Galton took only a single measure each of visual and of auditory reaction time.

These later researchers also found significant moderate relationships amongst siblings’ visual response times and small effects for siblings’ audio response times (p. 892).

Brain size and ability

Galton (1888a) re-analysed data relating to the brain sizes of Cambridge undergraduates and discovered that the estimated mean volume of those from the
top 17 (‘High Honour’ men) at the age of 19 was five per cent greater than the 52 non-honour ‘Poll men’. The brain volume of all undergraduates increased across the course of their studies but by the time of graduation the difference between the High Honour and Poll men had narrowed to 2 per cent.

**Contribution to Statistics**

Galton introduced the percentile concept (Galton, 1885). Subsequently, he demonstrated an arcane method of correlation (Galton, 1888b) in presenting an analysis of data gathered at the International Health Exhibition of 1884. He referred to the statistic as ‘r’ reflecting his earlier conceptualisations, first as reversions and later as regressions. Inspired by Galton’s work Karl Pearson, his protégé, friend and first incumbent of the Galton Chair of Eugenics at UCL, introduced the concept of the (σ) from the mean (Pearson, 1892). Utilising this concept, Pearson developed the Product Moment Correlation Co-efficient. This was described in a paper (Pearson 1895) which was presented to the Royal Society on his behalf by Francis Galton. The product moment correlation co-efficient (r or ρ) is still used to assess the relationship between normally distributed interval data today.

**Conclusion**

As a pioneer in the fields of intellect, individual differences and the statistical methods used to explore them, Galton is the giant upon whose shoulders others, starting with Karl Pearson, have stood. As a moral philosopher, his analyses were questionable and his remedies for improving the nation’s intellectual capital were misjudged and, undoubtedly, harnessed by others to great detrimental effect.

**References**


Galton, F. (1888b), Co-relations and their measurement, chiefly from anthropometric data, *Proceedings of the Royal Society of London* 45, 135–145


Dan Hughes started the event with some questions to gauge the audience’s views on the subject matter before introducing us to the three main models of EI:

1. EI as an ability
2. EI as a combination of cognitive capabilities, competencies and skills
3. EI as a trait comprising a constellation of behavioural dispositions and self-perceptions

Dan referenced some key findings (see table below) from a meta analysis of the research conducted in this area that has shown EI measures to be stronger at predicting performance in ‘high emotional labour’ jobs i.e. where high levels of positive emotions are required for success such as customer service advisors, team leadership / management.

The third model, which views EI as a trait displays a stronger correlation with higher order personality (the Big Five) than the others.

JCA’s EI model is rooted in their work with young job seekers and helping to ‘make change stick’ for them after a behavioural intervention. They proposed differentiating between personality, EI and competencies:

- **Personality** – WHO the person is and refers to your temperament and innate resources (including cognitive ability).
- **Emotional Intelligence** – HOW well a person learns to manage their temperament and harness their innate resources (i.e. their potential).
- **Competencies** – HOW this manifests in terms of a person’s work performance and behaviours.

### Meta-analytic research

| Key Finding 2: Ability EI and Mixed EI are not highly correlated (Joseph & Newman, 2010) |
| Key Finding 3: Mixed EI tends to be a stronger predictor of performance than Ability EI (Joseph & Newman 2010, Boyle et al, 2010) |
| Key Finding 4: Trait EI correlates with higher order personality dimensions but shows incremental validity beyond this (Andrei et al., 2016) |
JCA view EI as the ‘glue’ or ‘missing link’ that turns individual personality (potential) into effective performance so Personality x Emotional Intelligence = Performance. This description of EI reminded me of the Victoria sponge cake metaphor where the strawberry jam filling represents EI and the two sponge layers represent personality and behavioural competency. The fluidity of the strawberry-jam-like EI means it is mobile and soaks into both layers of personality and behavioural competencies.

They define EI in terms of WHAT, HOW and WHEN
- **WHAT**: The practice of managing our personality to be both personally and interpersonally effective
- **HOW**: The habitual practice of thinking about feeling and feeling about thinking to guide our behaviour
- **WHEN**: The extent and effectiveness by which we do this is determined largely by our attitudes

The EIP (Emotional Intelligence Profile) is a linear and multiscale tool with 16 scales. JCA produce a number of reports of varying granularity (EIP 360, Executive, Development, Summary, and Snapshot):

For those familiar with Transactional Analysis and the ‘OK Corral’, there is overlap with Eric Berne’s approach (though that wasn’t referenced in the basic Snapshot report that was shared with every participant during the workshop).

Whilst the division of EI domains is similar in the JCA model to other possibly more commercially well-known measures (e.g. Goleman et al’s), the key difference is the attitude foundation that underpins the feelings and behavioural levels as can be seen in the model below. In effect, the model has attitude at its heart and the other layers build from that.

**ATTITUDE**: comprising “self regard” (valuing oneself as a human, accepting the good and bad and acknowledging their right to be counted) and “regard for others” (not judging others by their actions – having unconditional regard).

**FEELING**: this is the middle layer in the model, comprising awareness of self and awareness of others (incorporating physiological awareness i.e. reference to thinking about feelings as well as feeling about thinking).

**BEHAVIOUR**: Comprising the following twelve scales (the first 6 under the heading of self-management, the next 6 under the heading relationship management. Reflective learning stands alone as a scale):
- Emotional resilience
- Personal power
- Goal directedness
- Flexibility
- Connecting with others
- Authenticity
- Trust
- Balanced outlook
- Emotional expression and control
- Conflict handling
- Interdependence
- Reflective learning

*Figure 1: The JCA model of EI*
The Snapshot report is designed for the lay person to use independently, therefore, it is ‘accessible’ without input from a trained person. Understandably, the content is somewhat simplified, with a focus on building the highlighted top three strengths and development areas identified in the summary. The format is clear and consistent, allowing the recipient to reflect on the report findings and encouraging recording of self-generated strategies (with suggested prompts for action if needed). I personally felt that my identified strengths and development areas aligned closely with feedback I’ve received previously and recognised similarities with tools like the MTQ48 (AQR’s Mental Toughness Questionnaire). I anticipate the Snapshot report could be a useful introduction to the concept of EI at the start of a journey of developmental coaching. Individuals wishing to address specific scales are signposted to read chapter 7 of Jolyon Maddocks’ (co-founder of JCA) book, Emotional Intelligence @ Work, where flesh is added to the bones of the brief Snapshot report. This book is an accessible read that offers a map for planning development using the SAFE-TBO 6-step model that takes a neuropsychological approach (David Rock’s SCARF model is referenced) to achieving sustainable behavioural change in a very practical way.

There appears to be a general trend amongst many psychological consultancies towards making their tools more commercially accessible – ideally without losing their potency and value. As a recipient of JCA’s consultant training day, I consider the EIP adds value to my portfolio for kick-starting dialogue in a coaching context and can see the Snapshot report being a helpful addition to larger scale organisational developmental programmes. Whilst JCA intend retaining their focus on development, there is a possibility of using the EIP as a selection tool in sales as work continues on improving criterion and other validities.

References
A fresh, humanistic look at Emotional Intelligence

Presentation by Julie Ensor & Stewart Desson from Lumina Learning

Review by Manjula Bray

Stewart Desson, CEO and founder of Lumina Learning, and Julie Ensor, Business Psychologist, have conducted extensive research into Emotional Intelligence (EI); finding many controversies around the construct itself and how to measure it. They illustrated this by presenting the group with a list of items taken either from EI or Big 5 measures and asked the audience to sort them accordingly. This approach made it obvious how much overlap there is between these two constructs. As a result, they argue that rather than trying to differentiate between personality and EI, instead the overlap should be embraced when designing questionnaires and this is precisely what Lumina Learning is trying to do with their recently developed tool “Lumina Emotion”.

The Lumina Emotion tool was developed “through the lens of the Big 5”. More traditional models of EI mainly argue that EI is just a function of high Extraversion, Agreeableness, Conscientiousness and low Neuroticism traits. Stuart and Julie observed that these models contain an implicit assumption that EI is based mainly on socially desirable traits (e.g. high emotional stability/low Neuroticism). They countered this with two arguments:

1. Even socially desirable traits, if overused, can result in overplayed strengths, which they term “overextensions”

2. Neuroticism and Introversion both have potential contributions to make to an emotionally-intelligent personal style, e.g. being a more effective listener, being modest, being vigilant to the emotions of others.

Thus they created their Lumina Emotion tool by examining all of the EI models, seeing what areas were already aligned to the Big Five and ‘filling in the gaps’ in order to develop a model that is balanced, complete, humanistic and more predictive of performance at work.

To address both sides of EI the Lumina Emotion tool divides the Big 5 into Emotional Sparks and Emotional Reactors. Emotional Sparks are based on 4 of the 5 core domains of personality:

- Attitude to others
- Structure and goals
- Curiosity and change
- Direction of energy and emotional expression.

Emotional Reactors are linked to the 5th domain (Emotional Stability), reflecting on:

- Outlook in life
- Self-regard
- Emotional intensity
- Relationship with stress.

Based on this, Lumina Learning’s general definition of EI is:

“Our ability to understand emotions in self and others, and to process and adapt our emotions to guide effective thinking and meaningful behaviour.”

... they created their Lumina Emotion tool by examining all of the EI models, seeing what areas were already aligned to the Big Five and ‘filling in the gaps’
The philosophy of Viktor Frankl and his idea that “between stimulus and response, there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom” has informed Lumina Learning’s view of EI. Four practices should guide us through the development of our emotional intelligence in our journey from human being to human doing (see figure 1 above).

Lumina argue that by consciously managing our personality (in any context), we are able to create meaningful life through our conscious action.

The main differentiators of their approach as they see it is in that they value different ways of being (for instance, by seeing the value in introversion in EI and the value of neuroticism as backed by research) and by modelling “Three Personas”, an Underlying Persona, an Everyday Persona and an Overextended Persona, which all interact with each other. The interactions between the 3 personas can be described as inner thoughts and feelings (the Underlying Persona) influencing everyday behaviour (the Everyday Persona), sometimes resulting in overplayed strengths emerging when we face threat or stress (the Overextended Persona).

All three of the personas showed multiple correlations with the Great 8 personality model as well as with the Lumina Learning Performance measurement.

For further information about the Lumina Emotion questionnaire and available reports, visit here: https://www.luminalearning.com/luminaproducts/emotion/en-us

Figure 1: How to develop your emotional intelligence – slide from presentation
Promoting test standards: The British experience of going global

Presented by Nigel Evans, ITC representative, The British Psychological Society

Introduction
The British Psychological Society is the leading organisation for setting standards in psychological testing in the UK. The Society directs the work of its Psychological Testing Centre (PTC) through the Committee on Test Standards whose role is to set, promote and maintain standards in testing. Whilst firmly rooted in the UK, the reach of the PTC is global which is evidenced by membership of its Register of Qualifications in Test Use (RQTU) by 11,684 testing professionals from 86 different countries and visits to its website from over 133 countries.

Objectives
The PTC provides information and services relating to standards in tests and testing for test takers, test users, test developers and members of the public. Increasingly, registrants are non-UK resident, and so a special project was set up to investigate the extent of international interest and inquiry into PTC services.

Methodology
The practice of the PTC was reviewed to understand its key delivery functions of particular interest to non-UK residents. Data was gathered to structure a profile of international interest. Principle sources ranged from website hits, office enquiries, and numbers of registrants, collated over the period of a year.

Results
- Guidelines and best practice statements on standards for the construction, use and availability of tests.
- Competence-based test user certification and registration in occupational, educational and forensic settings.
- Access to 150+ test reviews in summary or full as reviewed against the EFPA Review Model for the Description and Evaluation of Psychological Tests.
- Access to the list of tests which have met benchmark criteria for the award of a Test Registration Certificate.

Conclusion
It is possible to set standards in psychological testing for a single country, yet still be of general use across borders. Clear links have been made between ITC, EFPA and BPS sources to retain this universal applicability.

The PTC provides many of its online services free of charge. For information please visit www.psychtesting.org.uk
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Presenter: Nigel Evans
From the 22 November event: New Frontiers in Psychometrics
The theme for this year’s New Frontiers in Psychometrics event was inspired by a paper of the same name co-authored by one of TPF’s most frequent presenters, Professor Steve Woods, now at Surrey Business School. The paper appeared in the highly prestigious Journal of Applied Psychology and its full title was ‘Towards a Periodic Table of Personality: Mapping Personality Scales Between the Five-Factor Model and the Circumplex Model’ (Woods, S. A., & Anderson, N. R., 2015). Prior to Steve’s presentation another frequent TPF presenter, Wendy Lord, launcher of UK versions for both 16PF5 and NEO and I presented on the two models reviewed in Steve’s paper, the Five Factor Model and Circumplex models, respectively.

Wendy authored the UK manual for the latest version in the NEO series, NEO-PI-3. Her presentation briefly recapped the emergence of the Big Five Model and the subsequent development of NEO, with its 30 narrowband facets, as its leading commercial measure. She asserted the added value of the facets as indicators of what was driving each of the wider, domain, scores of individuals. Wendy proceeded to explain the relationships between the NEO constructs and other models of personality, i.e. Colin DeYoung’s 10 ‘aspects’ of the Big Five and their neurobiological correlates and his, and others’, discovery of two higher order ‘meta’ factors, Stability and Plasticity.

My contribution recapped the history of Circumplex personality models (i.e. constructs lying in the spaces between the pairings of the Big Five factors) starting with the interpersonal circumplex, involving Extraversion (E) and Agreeableness (A), followed by the affective circumplex, involving Neuroticism (N) and Extraversion (E). I concluded with the labels for the segments between all of Big Five pairings extracted from the Abridged Big Five Circumplex (AB5C) of Goldberg and others. An improved version of the table summarising all the 40 facets, and their counterpoints, as ‘compass points’ is reproduced below.

Steve Woods postulated the AB5C’s ‘pure’ Big Five factors and all of its 40 circumplex: facets as the basis for his periodic table of personality factors and attempted, by factor analysis, to map the constituent scales of 11 personality inventories onto...

... test users could map their preferred instrument(s) onto the periodic table to infer missing scales or obtain confirmation where there is duplication.
Steve demonstrated that whilst E/I pairings with A and N (the interpersonal and affective circumplexes, respectively) attracted substantial loadings from a wide range of scales from different measures, those for about half of the remaining pairings were sparse. He concluded that his analysis revealed the existence of relatively unmeasured personality space. Steve suggested that mapping inventory items, rather than scales, onto his periodic table might give a better indication of the content of this space that could predicate the drafting of additional items to fill it. In the meantime, test users could map their preferred instrument(s) onto the periodic table to infer missing scales or obtain confirmation where there is duplication.

Dr Anat Bardi of Royal Holloway University of London presented on The Schwartz circumplex of values. Values reflect important life goals (e.g., success, kindness) which transcend situations, are relatively stable and are socially positive. Like traits they are available to consciousness but they differ in being organized in personal hierarchies. They are systematically related to demographic variables, political attitudes, affiliation preferences and behavioural habits.

Factor analysis has revealed a circumplex structure to human values with the most fundamental opposition shown between individual versus collective interests. The three factors reflecting the individual are Openness to Change (subsuming Stimulation and Self-Direction), Hedonism and Self-enhancement (Achievement and Power). In opposition to these, reflecting the collective, are Conservation (Security, Conformity, Tradition) and Self-Transcendence (Universalism and Benevolence). Strongest correlates with the Big Five are:
- E+ Stimulation, Power, Achievement
- O+ Self-direction, Stimulation, Universalism
- C+ Security, Conformity
- A+ Benevolence
- A-Power
- Correlates with N are minimal

For the future, I would like very much to organise an event exploring the interrelationships amongst self-report traits, self-report values and implicit measures of motives. I believe that they can add predictive power to each other.
Development and Initial Validation of a Situational Judgement Test to Assess Operational Preparedness in Tactical Incident Commanders within a UK Fire and Rescue Service

Sophie Ward & Dr Gail Steptoe-Warren, Faculty of Health and Life Sciences, Coventry University, UK

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Background

- Over recent years there has been a shocking rise in the number of unnecessary firefighter deaths in the Fire and Rescue Services (FRSs) within the UK, especially at complex incidents such as Atherstone on Stour in 2007 (WFRS 2014). Concerns have been raised therefore in regards to the decision making of Incident Commanders (ICs), and in particular, whether they are operationally prepared to deal with such incidents.
- Operational preparedness (OP) defined by Steptoe-Warren and Grant (2013: 3) in the context of the FRS as, ‘individuals, crews and stations being prepared to carry out their assigned tasks and roles with minimal risk to public and fire personnel safety.’
- This research focused on the development and initial validation of a situational judgment test (SJT) to assess whether in particular, Tactical ICs within a specific UK FRS are operationally prepared to deal with such incidents. In order to assess OP, the five theoretical constructs of OP (see figure 1) and 22 underlying sub-constructs founded by Steptoe-Warren and Grant (2013: 5) were utilised.

Methodology

- A two-phase sequential mixed methods design (Qualitative + Quantitative) was employed in the current research (see figure 2), each of which involved the recruitment of a homogenous sample from a specific UK FRS.
- During phase 1 archival sources (item stems/responses previously formed by Steptoe-Warren and Evans (2014) to assess OP in Operational ICs within the same UK FRS) were adopted by several subject matter experts (SMEs), and the critical incident technique (CIT) was utilised to develop new additional scenarios and responses which were then checked, refined and linked to the constructs of OP being assessed.
- During phase 2 the items and responses developed were split into a pre- and post-test helping to reduce participant fatigue. These tests were then administered to 28 Tactical ICs, along with a set of demographic questions and open-ended feedback boxes, 14 of which were male undertook both the pre- and post-SJT.

Results & Discussion

- A SJT consisting of 75 item stems, each of which had four potential responses (one being the optimum response) was developed to assess all five constructs of OP (See figure 3 for an example of an item and four potential responses, the optimum response highlighted in bold).
- Content validity for the SJT was seen to be established during phase 1. Following the pilot test however it was evident that the majority of participants did not score well on the SJT, and that the SJT had a low level of internal consistency (Cronbach’s alpha = .36 / Spearman-Brown Coefficient = .32). Furthermore, although the majority of the items were seen to have a high level of face validity, feedback from some participants suggested that a few items may lack face validity. In particular, they were either incidents not usually dealt with by the FRS or did not allow for an informed decision to be made.
- In addition to recommendations for further development, a variety of items were therefore removed from the SJT, especially those with zero variance, resulting in a revised 61-item SJT. An SJT which, in line with the recommendations of Kline (1999), showed an acceptable level of internal consistency for a measure of multiple psychological constructs during its early stages of development (Cronbach’s alpha = .62 / Spearman-Brown Coefficient = .71).

Research Contributions

- Although the SJT developed is still in its early stages and still requires further development and assessment, this research has undoubtedly provided a significant contribution to knowledge and the basis for further research. In particular it has provided:
  > A greater understanding of decision making and OP within the UK FRSs, as well as the incidents usually dealt with by Tactical ICs within the FRS.
  > An individual-level SJT in its early stages to assess the five theoretical constructs of OP founded by Steptoe-Warren and Grant (2013) in Tactical ICs within a UK FRS. A measure of which did not previously exist for Tactical ICs, and provides the foundations for a potentially commercially viable measure which could have strong implications for training, individual development and organisational outcomes within the targeted UK FRS, as well as other FRs within and outside of the UK.

Key References

- A greater understanding of decision making and OP within the UK FRSs, as well as the incidents usually dealt with by Tactical ICs within the FRS.
- An individual-level SJT in its early stages to assess the five theoretical constructs of OP founded by Steptoe-Warren and Grant (2013) in Tactical ICs within a UK FRS. A measure of which did not previously exist for Tactical ICs, and provides the foundations for a potentially commercially viable measure which could have strong implications for training, individual development and organisational outcomes within the targeted UK FRS, as well as other FRs within and outside of the UK.
Inspiration Quotient Measure
Psychometrics Forum – Excellence in Psychometrics Award Submission 2016

Aims
Aspect Ltd are a communications agency who specialise in running events that aim to inspire audiences. They approached Sten10 to explore ways in which the levels of audience inspiration could be measured scientifically. Specific objectives were as follows:

1. Measures the “shift” in audience inspiration caused by Aspect Ltd events.
2. Provides an indicator of the likelihood that delegates will take action following the event and maintain positive behavioural change upon return to the client environment.
3. Captures examples of delegate commitments
4. Reinforces follow through on commitments and sustained behavioural change, therefore, increasing ROI for Aspect’s clients.

This poster summarises the work completed so far in this innovative area and proposes next steps.

Method
First, we researched the scientific definition and how others have measured “inspiration”. Recent work on inspiration defines it as:

• Being evoked by a “trigger”—e.g. watching a superior individual (Thrash & Elliot, 2003)
• Involving a “change of heart” (Falcioni 2001) associated with emotions such as elevation, awe and admiration—a feeling often associated with “falling in love” (Brancazio and Zietzma, 2003).
• And also involving a “change of mind” i.e. motivation directed towards a new ‘target’ e.g. a future self, a behaviour, a personal goal, or a creative product (Falcioni 2001).

In order to develop a tool that predicted real-world behaviour, not just a mental ‘change of heart/mind’ we integrated draw on the theory of planned behaviour (Ajzen, 1985), which states that, to predict whether a person intends to do something, we need to know:

• Whether the person is in favour of doing it (‘attitude’)
• How much the person feels social pressure to do it (‘subjective norm’)
• Whether the person feels in control of the action (‘perceived behavioural control’)

Integrating these two theories, allowed us to develop a self report questionnaire with quantitative and qualitative response options that is administered three separate occasions: before the event, immediately after the event finishes, and 3 months later. The tool allows us to analyse the data at an aggregate level (overall and by team/department) as well as at an individual level to support coaching and enable long term behavioural change. Two output reports are generated, the first is for Aspect Ltd which allows them to develop long term, cross client/industry insights and expertise. The second is designed for the clients commissioning the event, therefore, whilst detailed, it is user friendly and high impact, directing clients to key insights and recommendations on actions that will remove blockers and accelerate progress towards the clients goals.

Research
Following an internal pilot at Aspect Ltd., the Inspiration Quotient was branded as the Aspect Inspiration Measure and has been used at two events, and we are mid-way through the third.

1. Association for Business Psychology Conference 2015 (live pilot)
   • 100% of the respondents (23% of audience) indicated the event inspired them
   • The event sessions which elevated inspiration were identifiable.
   • 100% of respondents committed to one or more actions, however, the audience saw barriers to them acting upon the commitments they were inspired to make. Qualitative responses allowed targeted action by ABP to support follow through of actions.

2. Schneider Electric (2016)
   • Pre-event data allowed the client to tailor the event to increase inspiration.
   • 100% of the audience were inspired by something at the event, specific sessions were measured to understand the most / least inspiring.
   • 100% of the respondents (23% of audience) indicated the event inspired them
   • 75% committed to actions that they believed would add value to the organisation.

3. Century Link (2016)
   • The pre-event questionnaire revealed high levels of motivation to attend and an audience open to inspiration, yet only a moderate understanding of event’s purpose. This allowed the event management team to refocus and improve pre-event communications in order to positively impact behavioural change.

Discussion and Next Steps
The Aspect Inspiration Measure is helping Aspect Ltd to understand when they deliver truly inspiring events that result in sustained behavioural change and higher ROI. Organisations get valuable insights about planning events to achieve the desired psychological impact upon people (inspiration) and give them the data to take appropriate action to help people follow through on the behavioural change identified. Suggestions for future research would be to analyse the third questionnaire responses to assess the longevity of the inspiration effect and measure the actual ROI of the behavioural change within an organisation.

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# Power to predict

Novel approach on measuring personality and predicting job performance.

## Zyvo Adaptive Personality Questionnaire

**Development (2012 -2014)**

- Item Response Theory (IRT, modern test theory)
- Unidimensional Pairwise Preference; advantages ‘normative’ measurement
- Multidimensional Pairwise Preference; advantages ‘ipsative’ measurement
- Developed with the Dutch University of Twente
- Adaptive; follow-up questions based on earlier responses
- 24 personality scales
- Item bank with more than 900 statements (all fully interchangeable)

## Predict job performance

### Teachers High School (2015)

**Approach**

- Collected performance data on teachers
- Teachers completed Zap-Q
- Development of predictive model (Machine-learning, Artificial Intelligence)

**Result**

Precision predicting job performance: **76%**

### Risk Managers (2016)

**Approach**

- Risk Managers completed Zap-Q
- Conducted interview with Risk Managers
- Interviewers predicted job performance based on interview and interpretation Zap-Q.
- Received performance data Risk Managers
- Development of predictive model (Machine-learning, Artificial Intelligence)

**Result**

Precision predicting job performance:

- Interview + Zap-Q: **90%**
- Zap-Q only: **80%**