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## **Challenges in interpreting and feeding back Factor B** by **Lynne Hindmarch**



### **Introduction**

I have pondered for some time over the challenges to the practitioner of firstly, interpreting the Factor B results, and secondly, feeding them back to the client. I decided to write this brief article to outline my understanding of the difficulties, hoping that this may generate some discussion and sharing of other people's views and experience.

As far as I know, the 16PF5 (and prior to that the 16PF4) is the

only personality assessment that includes a test of ability. The 16PF5 Administrator's Manual (1994) states that it is included 'because cognitive style moderates the expression of many personality traits' (p. 43). Cattell and Schuerger (2003) say that Raymond Cattell provided the Factor B scale as a compromise between having no measure of ability, and taking up half the assessment time by including a full-scale measure of intelligence. The Manual stresses that it is a 'brief measure of reasoning or intelligence', and that is not intended to replace a more reliable full-length ability test.

### **Interpreting the results**

Factor B comprises 15 items, which cover verbal, numerical and logical reasoning. According to the Manual, it gives correlations with other measures, such as a .61 with the Information Inventory and a .51 with the Culture Fair Intelligence Test.

In earlier editions of the 16PF Cattell (1989) suggests that high scores on Factor B are likely to indicate higher reasoning ability because people are unlikely to obtain high scores by chance. (Another interpretation of a high score on Factor B is that the individual cheated, but for the purposes of this article let us assume that honesty prevails.) There may, however, be a number of reasons why a person obtains average or low scores, which may not accurately reflect their reasoning ability. For example, the person may be depressed, anxious, distracted, misinterpret the instructions, or not be motivated to complete it. The score can also be affected by the person's level of education.

In addition Lord (1999) points out that Factor B is untimed, completed at the end of the assessment (which may mean that fatigue could cause errors), and also requires a different mind-set from the rest of the questionnaire. Lord suggests that all one can say, if a person answers 10 or more of the 15 items incorrectly, is that they 'failed to demonstrate a marked *presence* of reasoning ability.' (p. 92). She also makes the point that there are different kinds of intelligence that are outside the scope of what Factor B is measuring.

The main distinction, then, between Factor B and other tests of ability is that it is short and untimed. A test with more items and standardised conditions is likely to be more reliable, allowing greater confidence in the results.

Cattell and Schuerger (2003) state that professionals should always be cautious in interpreting the results of the Factor B scale and avoid over-generalising from such a short intellectual measure. A full-length measure should be administered if information about a client's intellectual ability is important (for instance, in a selection process).

In short, Factor B yields results that are likely to be reliable at the upper end (stems 8 to 10), but can be interpreted with less confidence at the mid and

lower end. Understanding this has important implications for how practitioners use the results.

### **Implications for feedback**

Having discussed the guidelines for interpreting the Factor B results, let us consider the implications of this for feedback. One option of course is to ask the person completing the questionnaire to ignore the last 15 questions, which comprise the Factor B items. In my own practice, if I am using the 16PF5 for selection I always use it alongside another standardised ability test where I have greater confidence in the result. However, most of my work is developmental, for coaching or career counselling for instance. So assuming that the individual has completed the Factor B items, some thought needs to be given to how the results are fed back to the client.

If the score is at the upper end, according to the Manual that will give some indication of intellectual ability (in that a high score is unlikely to be achieved by chance). This presents no difficulty to the practitioner – after all, we are feeding back good news. However, if the results are in mid or low range, how is the practitioner to feed this back? Especially (as I have experienced on several occasions) if the client's first question at the feedback session is: 'How did I do in that reasoning test at the end?'

In this scenario the situation is more complex as there is more to consider. As has already been suggested, there may be a number of reasons why an individual gained a low or mid range score. It may be that the result is reflecting their level of general intelligence, but there may be other explanations for the score as well, which will need exploring as part of the feedback. It may be possible for instance, to discuss how the individual's results stack up with other ability tests they did in the past, or explore their level of anxiety when they were doing the assessment.

In summary, if a high level of confidence is needed for identifying an individual's intellectual ability, then a longer, standardised test should be used rather than relying on the result from Factor B. The practitioner also needs to be fully aware of the issues around interpretation at the mid and lower end of the scale. I hope that when the 16PF is next revised, more attention is paid to this Factor and the difficulties faced by the practitioner in working with the client.

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**Teresa Payerle has written three articles for the Newsletter, describing her impressions of MBTI, NEO, AND 16PF. Teresa is an American broadcaster living in Berlin. Her interests include music, writing, reading, and taking languages apart to see how they work.**



Call me a laboratory rat, a guinea pig or an experimental bunny-rabbit. \* But whatever you do, don't call me resistant to change.

After doing the Myers-Briggs Type Indicator, 16PF, NEO and FIRO-B assessments on me, David Roberts has pretty much nailed the fact that if there's one thing I am, it's open to change.

This trait shows up consistently high on all these tests, which alone would seem to give the results credence, even if they didn't all ring so true in other aspects as well.

Graduating from a rank-and-file test taker, I have now been permitted a peek around the curtain to see how the experts measure these things. David sent me a graph, which looks like an ECG done on a patient receiving shock therapy. The line rises sharply, it drops, it breaks off, it rises again. Where it rises are listed things like Openness. Floating around up there with it are fantasy, ideas and--uh-oh - Angry Hostility.

But that's just a graph. Reading the descriptions, I find a more sympathetic interpretation of those two cold bare words. "Tendency to experience anger and related states such as frustration and bitterness." Those 'related states' are closer to the mark. Where the line drops, it shows that on traits like Agreeableness and Compliance, I'm a quart low. What a tough customer this woman must be. I also rate low on impulsiveness, meaning I don't tend to be impulsive, so that's a good score. Looking over the Global Factors worksheet, I

find the same thing as on the other tests: openness to change reigns. Pity I'm not running for the US presidency.

Delving further into the mysterious yet intriguing world of profiles, I opened the hefty full-color 16PF booklet. This is the DIY version, the lay person's complement to the test I had already taken. I would have found it more interesting had I not already taken the test and had my results. But I went through anyway, highlighting my traits. That in itself should be instructive to a person working alone, as the test-makers group like traits together, balancing the contrasting ones on opposite sides of the page. Tellingly, many of my pages wound up with whole rows of iridescent pink gaily decorating only one side or the other. Is our hapless test subject really given to such extremes?

Under Tension, it was all on the right (energetic, responsive, restless, impatient and frustrated – aha! – by problems, delays, setbacks). On Perfectionism, your reporter is a study in contrasts: self-disciplined, attentive to details, has exacting standards, but likes informal work setting, is comfortable in unpredictable settings, gets bored with routine, values spontaneous, unrestrained lifestyle. And again the famous openness to change, to which the 16PF booklet devotes an entire section. There the whole right-hand column was highlighted.

Sensitivity straddled both columns (strong imagination, artistic, expressive on the one hand, likes to see how things work on the other). On Warmth, the entire left column (i.e. not very) was highlighted: happy to work alone for long hours, tends to be independent, aloof, individualistic, self-directed, factual and precise, critical thinker. The only trait with which I could redeem my pathetic self here was that of being a sympathetic listener, even soft-hearted. Who would have guessed?

While I enjoyed going through the 16PF profile book, it seemed to me to be rather the equivalent of self-study. I can mark all my own traits, but it's not the same as having that information derived by a pro applying exotic formulae to my unsuspecting replies on a sheet full of questions. Those results are evaluated and turned into points on a graph. I like that. Then comes the poetry of the narrative evaluation, ideally with the subject present. Not only does this process appeal to that critical thinker who wants to see how things work, but it's more likely to reveal things about me that I didn't know about myself, which is for me the whole point. Being faced with answering directly for oneself, e.g. Am I a hard worker or do I slack off at every chance? I think many might be tempted to polish up their responses just a bit.

All of the tests tend to be geared to people in the white-collar workplace. Now in my mid-50s with quite a few careers behind me ("gets bored with routine"), I'm less concerned with how I stack up among competitors in the urban jungle. But I wish I had taken one or more of these tests years ago. I would have had a much better view of my strengths and understood better how my

weaknesses were hindering me. I might have even recognized why certain survival jobs I hated were all wrong for me (including any involving a white-collar workplace), instead of blaming myself for not fitting in.

And I might have been more confident about pursuing what interested me. Some contrasting traits go together to make a strong whole, like expressiveness and imaginativeness with an appreciation for structure. That combination is good for work involving languages, such as writing and translation, both of which I have since taken up but would have done far earlier had I really understood how well suited to them I was, and why.

But the tests are still interesting for me on a theoretical level, appealing to the part of me that wants to see how things work, how I work. They have also helped me to understand and get along better with my fellow human beings.

What the test results show as much as anything is that, couch potatoes aside, we are complex creatures. David emphasizes that while we may not be able to change our personality radically, we can change our behavior. Once you understand what kind of person you are in relation to others, you can make suitable adjustments, thus improving your possibilities in the workplace and your relationship to those other fascinating complex creatures as well.

*\* [The origin of the term “experimental bunny-rabbit” is the late-modern German Versuchskaninchen.]*

*Teresa Payerle  
Berlin*

## ALL CHANGE AT THE INTROVERT ARMS

For the benefit of the newer members of the PF, I should explain that the Introvert Arms is a traditional, and charmingly stick-in-the-mud pub whose customers enjoy nothing more than crosswords, chess, sudoku, and gazing unproductively into space. They are so absorbed in all this that they frequently forget to order their beer. “Good Morning” is regarded as a long conversation. The only other information you need is to know that the wimpish Hubert, who purports to be an occupational psychologist, and the overly aggressive psychologist from north of the border, called Angus, who probably greets his clients with a Glasgow kiss, are regulars. And it is my misfortune that they are usually in the pub at the same time as me.

But here is the sad news. There have been changes at The Introvert Arms. No, Hubert and Angus still attend – unfortunately - but Tony the landlord

has gone. Retired. We shall miss his encyclopaedic knowledge of local pubs and the brewing industry.

We awaited the new landlord with some trepidation. Would he change the place beyond recognition? Would there be one-armed bandits, pinball machines, muzak, and other unspeakable interferences, detracting us from our introverted absorption in crosswords (plain and cryptic), suduko, and animated discussions about the lesser-known points of psychometric assessments?

My first impression on my visit under the new regime did not auger well. A man whom none of us had ever seen before, (so he had to overcome that severe disadvantage for a start), ballooned his 20-stone tattooed body across a barstool. He had a grey ponytail and a greasy baseball cap that ill-suited a fifty-something-year-old man. He also had a long grey beard. His wife – or partner - was even grosser. She had so many tattoos she could have been running a stall on The Golden Mile at Blackpool. Perhaps she did. Or had she escaped from a sumo-wrestling ring? Or from wrestling at the Olympics? They sat there, not speaking to each other or anyone else. Quite mute, staring blankly into pint glasses of lager.

I turned to Angus and Hubert for confirmation of my negative view of this scene and so that we could all have a rant together. We are not bigoted, but we do have an intense dislike of anyone outside our village or the next. Also for anyone who looks different, is different, or aspires to be different. “Who do they think they are?” is a phrase that is often on our lips. Angus of course was outraged – it doesn’t take much, as readers of this column will know. Hubert adopted a meek, live-and-let-live attitude. Just what I expected from him. Wimp. Can’t do with it. He should stick to Morris dancing. The poison of political correctness seems to have got to him. That’s not what made Britain great. And for once my feelings coincided with those of Angus.

We huddled in a corner, grumbling into our Pedigree. Hubert tried to mollify Angus and me by talking about his latest psychometric disaster but we were not going to be distracted from our enjoyment of slagging off this johnny-come-lately and his parvenu. We muttered dark words about searching for another pub.

We needn’t have worried. I have been there again this week and the new manager (not landlord) quickly challenged us to complete the crossword in less than 20 minutes. *That’s* more like it, we thought! *That’s* what pubs are for! There was no muzak, no flashing lights, no pinball machines. He had however installed a small television so that we could watch the Olympics. The jury’s out on that. I wondered whether Tony had had a quiet word with him before he retired, because he simulated awarding me a gold medal for completing the crossword in good time. I was going to regard the barstool as a sort of podium and stand aloft proudly flaunting my medal and waving my tankard to an invisible

crowd. And of course applauding myself, as appears to be the self-serving custom these days of athletes and particularly of footballers. But I thought better of it, my athleticism not being – quite - what it was.

Nevertheless being the resourceful folk that we are, and ever alert to lapses in other people, we started to criticise the commentators of the Olympic Games, collecting howlers over 10 days or so, such as the gymnast who said, 'I owe a lot to my parents, especially my mother and father'; the boxing pundit who said, 'Sure there have been injuries and even some deaths in boxing, but none of them really that serious'; and the announcer who said that, "If history repeats itself, I should think we can expect the same thing again.'

To sum up: it seems that all many not be lost although the landlord has retired. Nevertheless we shall keep a beady eye on his successor and we shall try to ensure that newcomers leave suitably disenchanted, leaving us to complete crosswords in our own little goldfish bowl.

I shall keep you informed.

David Roberts  
Ed

## NAILING JELLY TO THE CEILING: THE ELUSIVE AND MYSTERIOUS ART OF ASSESSING PERSONALITY

What is it about personality that gets everyone so enthused that they will try anything, it seems to fathom its depths? We know that as far back as the ancient Greeks, man has been trying to account for the attribute that marks one person out from another. And it is a fairly sure bet that the Chinese would have worked on it before the Greeks.

We are familiar with the modern approach – Type or Trait – which is the better? A recent visit to Roy Childs, founder and chairman of our group for its first ten years, had me thinking about this afresh. In a couple of hours Roy demolished some of the sacred cows of psychometrics – “*Just write down the first answer that comes to you,*” he quoted. “It doesn’t make any sense at all,” he said. I have been chewing on the rump steak of that sacred cow for the last week.

So let’s stick with Trait for a moment. There is the old question as to whether our personality changes over the years. Certainly for my part, I have scored almost exactly the same on 16PF every time I have taken it. (The last time was on a train journey to a London meeting when a casual glance at the agenda said “Please make sure you bring with you an up to date copy of your profile.” So I sat there and just filled it in, in something of a panic, because we

were drawing into St Pancras Station.) I needn't have bothered: it was the same as last time.



“All you’re doing,” said Roy, “is telling a story.”

OK, but something kept nagging at me. It was the idea set out by Rita Carter in her book: *Multiplicity: The New Science Of Personality*. In it, she describes in admirably jargon-free prose, how we change and adapt our personalities to suit the situations in which we find ourselves. There is nothing very new in this theory. The idea has been around for many years – *The Plural Self* (1999), *The Multiple Self* (1986) and *Subpersonalities* (1990). There is a chapter called Am I Me Or Am I The Situation? in *Personality, Development and Learning*. Carter’s contribution is to make her book eminently readable and to include an interactive section in which we can map the traits we employ to suit different relationships. We have major and minor sets of personality traits.

So if Roy is right, and we are only telling a story, is it the *right* story? What about the set of traits I deploy with my best friend, with a committee member, the vicar, the handyman, or a stranger I chat to in the pub? Like just about everyone else, I am not one-dimensional. You learn to have some flexibility as you encounter different situations going through life. Carter says we develop sets of personality traits to help us to cope with new situations.

But I think most of us have always been aware of this, even if it is at a low level of awareness. So when we fill in one of these personality questionnaires, which set of traits do we evoke and why? Are we mainly reflecting what we know people have said about us – “*You’re quite outgoing, aren’t you?*” - “*Why do you always seem so apprehensive?*” – “*You’re always so relaxed*”. If people have been saying that you are creative, for as long as you can remember, does this not figure in your questionnaire responses? You can also argue that if that is what everyone thinks, then that must be the reality, so that’s what you should reflect in your answers.

This whole topic is so fascinating, perhaps it may inspire some readers to express their views? No? Oh well, it was worth a try.

In the next issue I shall disclose how to assess people by looking at their hands. Can’t wait, can you?

David Roberts  
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