



Correlates of the Eysenck Personality Profiler

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Abstract

In this two part study, 811 participants completed the Eysenck Personality Profiler (EPP) and the Honey and Mumford Learning Styles Questionnaire (LSQ) and 263 adults completed the EPP and the Myers–Briggs Type Indicator (MBTI). As predicted there were many significant correlations which add to the concurrent validity of the EPP. When the overlap of the EPP with the MBTI and LSQ is compared with the overlap of the NEO-PI with the MBTI and LSQ (derived from Furnham, 1996a,b) it appears that the EPP has greater similarity with the LSQ, but the NEO-PI has greater similarity with the MBTI. © 2001 Elsevier Science Ltd. All rights reserved.

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1. Introduction

This study looks at the concurrent validity of the Eysenck Personality Profiler (EPP; Eysenck & Wilson, 1991) which measures traits at *both* the primary factor and super-factor level. The factor structure of the EPP has been investigated by Eysenck, Barrett, Wilson and Jackson (1992), Costa and McCrae (1995) and Jackson, Furnham, Forde and Cotter (2000). We compare the EPP with the Myers–Briggs Type Indicator (MBTI) and the Learning Styles Questionnaire (LSQ). The Jungian-based MBTI is widely used in occupational psychology and has been the subject of extensive research (Davito, 1985; Haley & Stumpf, 1989; Pittenger, 1993). Carlson (1985) notes its generally favourable validity although others disagree (Hicks, 1984; Furnham &

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Stringfield, 1993; McCrae & Costa, 1989; Schriesheim, Hinkin & Podsakoff, 1991). There is an impressive convergence between the NEO-PI and the MBTI (Furnham 1996a; McCrae & Costa, 1989). MacDonald, Anderson, Tsagarakis and Holland (1994), however, are less eager to jettison Jungian theory and vocabulary in favour of the five-factor terminology based on the overlap between the measures.

The second study provides information concerning the overlap of the EPP with the learning styles questionnaire (LSQ; Honey & Mumford, 1982) which is designed specifically to measure the way people learn (Kolb, 1984). Several studies have demonstrated the reliability and validity of the LSQ (Allinson & Hayes, 1990; De Ciantis & Kirton, 1996; Furnham & Medhurst, 1995; Furnham, Jackson & Miller, 1999; Goldstein & Bokoros, 1992; Tepper, Tetrault, Braun & Romero, 1993). Eysenck (1996) has some doubts about the high correlations that are found between LSQ scales, but concludes: ‘... personality is causally involved with learning styles’ (p. 437).

Two recent studies have reported a fairly large overlap between the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975) and the LSQ (Furnham, 1992; Jackson & Lawty-Jones, 1996). Jackson & Lawty-Jones (1996) found a relatively clear split between primary factors shaped by everyday learning and those less related to learning experiences.

Furnham (1996b) correlated NEO-PI with the LSQ. They found little overlap between measures. Only with Extraversion is any real variance in common ($r = 0.28$, $P < 0.001$), yet even this is not meaningful enough to provide strong evidence of convergent validity.

The aim of the paper was to examine the relationship between the EPP and both the MBTI and LSQ against the background of previous research linking the NEO-PI to the MBTI and LSQ. We predicted higher convergent validity between the NEO-PI and the MBTI because the five-factor structure of the NEO-PI provides the best parsimonious *description* of the data. We predicted that the three-factor EPP solution would have higher convergent validity with the LSQ, than either the NEO-PI or a five-factor solution to the EPP, since the Eysenckian tradition emphasizes that learning is fundamental to personality (Eysenck, 1996); a tradition that seems to be absent from the ‘Big 5’ literature (Costa & McCrae, 1992).

2. Study 1

2.1. Method

2.1.1. Participants

There were 263 participants in this sample (140 male and 123 female). Mean age was 28.91 years ($SD = 7.10$). They were job applicants for a middle management post who were required to complete a battery of tests.

1. The Eysenck Personality Profiler (EPP; Eysenck & Wilson, 1991).
2. Myers–Briggs Type Indicator Form G (MBTI; Briggs & Myers, 1987).

2.1.2. Procedure

Participants were tested as part of a selection program in their organization.

2.2. Results

Table 1 shows the pattern of correlations between the EPP and the MBTI scales. The EPP superfactor Extraversion ($r = -0.53$, $P < 0.01$) and five of the EPP primary factors are all significantly correlated with the MBTI E-I scale. Neuroticism ($r = 0.25$, $P < 0.01$) and four of the seven EPP primary factors are also correlated with E-I. Neuroticism and many of the scales of

Table 1
Correlations between EPP factors and the Myers–Briggs type indicator^a

EPP factors		Myers–Briggs			
High	Low	E-I	S-N	T-F	J-P
Extraversion	Introversion	-53***	13*	-21**	25***
1. Active	Inactive	-30***	12	-22**	26***
2. Sociable	Unsociable	-68***	5	-8	19**
3. Expressive	Inhibited	-35***	10	10	29***
4. Assertive	Submissive	-47***	19**	-30***	17*
5. Ambitious	Unambitious	-28***	9	-25***	-6
6. Dogmatic	Flexible	-9	-9	6	8
7. Aggressive	Peaceful	-5	6	-15*	10*
Neuroticism	Stability	25***	-13*	15*	-05
1. Inferiority	Self-esteem	33***	-9	29***	-3
2. Unhappy	Happy	28***	0	29***	1
3. Anxious	Calm	21***	-8	33***	-1
4. Dependence	Autonomy	16**	-15*	31***	-1
5. Hypochondria	Sense of health	7	-6	24**	-4
6. Guilt	Guilt freedom	11	-6	7	6
7. Obsessive	Casual	7	-22***	35***	-27***
High psychoticism	Low psychoticism	-14**	15**	-08	48***
1. Risk taking	Careful	-9	26***	13*	36***
2. Impulsive	Control	-12	15*	15*	58***
3. Irresponsible	Responsible	4	14*	-34***	35***
4. Manipulation	Empathy	-11	6	-20**	9
5. Sensation-seek	Unadventurous	-23**	33***	-48***	35***
6. Tough-minded	Tender-minded	-5	4	-9	3
7. Practical	Reflective	4	-40***	-27***	-5
Dissimulation		-5	19**	-8	19**
Time taken		-1	11	15*	13*
Can't decide		-11	-1	-5	3

^a Correlations between the five-factor solution of the EPP with the MBTI are shown in Table 3. $N = 263$. *** $P < 0.001$; ** $P < 0.01$; * $P < 0.05$.

Neuroticism also have moderate but significant correlations with the T-F scale. Psychoticism ($r = -0.14$, $P < 0.01$) and one primary scale were also correlated with the E-I dimensions.

All three superfactors were marginally correlated with the Sensation-Intuition (S-N) dimension, indicating that Stable ($r = -0.13$, $P < 0.05$), Extraverted ($r = 0.13$, $P < 0.05$) and Tough-minded ($r = 0.15$, $P < 0.05$) scorers tended to be 'intuitive'. However few of the EPP primary factors from Extraversion or Neuroticism correlated with the S-N dimension. Five of the seven Psychoticism primary traits correlated significantly, though not all in the same direction.

Sixteen of the 21 primary factors and two of the three superfactors were correlated with the T-F dimension. Finally, the J-P dimension from the MBTI seemed most closely related to Psychoticism ($r = 0.48$, $P < 0.01$), but also Extraversion ($r = 0.25$, $P < 0.01$).

3. Study 2

3.1. Method

3.1.1. Participants

In all, 811 people took part (370 males, 441 females). Mean age was 29.38 years ($SD = 6.96$ years). Nearly all were native English speaking New Zealanders of European origin. All were employees, or potential employees, of a large communication organization.

3.1.2. Questionnaire

1. The EPP as before.
2. Learning Style Questionnaire (LSQ; Honey & Mumford, 1982).

3.1.3. Procedure

As in the first study.

3.2. Results

As shown in Table 2, the Activist learning style was almost equally correlated with Extraversion and Psychoticism ($r = 0.47$ and 0.46 respectively, $P < 0.001$) and Pragmatists were correlated with Extraverts ($r = 0.29$, $P < 0.001$).

The Reflector scale is significantly correlated with all of the EPP super-factors, indicating that reflectors are introverted and low in Psychoticism. The correlation between Reflector and Neuroticism was significant but low. The Theorist scale was related to Psychoticism ($r = -0.25$, $P < 0.05$).

3.2.1. Results of the EPP in comparison with the NEO-PI

Table 3 presents a summary of the results from Study 1 and Study 2 as well as other studies. Correlations between the five-factor solution to the NEO-PI (Costa & McCrae, 1985), along with three- and five-factor solutions to the EPP are presented against the MBTI and the LSQ. The names of the five-factor solution to the EPP are chosen on the basis of the similarity of the scales

to the NEO-PI scales. Correlations of the NEO-PI with the MBTI and LSQ are taken from Furnham (1996a,b) both with $N=160$.

Results show that there is considerable overlap between the NEO-PI and the MBTI and the EPP and the MBTI. The NEO-PI and the five-factor EPP solution tend to show a broader range of high correlations across all four scales of the MBTI than the three-factor EPP solution. In contrast the higher correlations between the three-factor solution to the EPP and the MBTI are mainly between Extraversion and E-I and Psychoticism and J-P. Measures of Neuroticism in the

Table 2
Correlations between EPP scales and the Honey & Mumford Learning Style Questionnaire^a

EPP factors and superfactors		H&M learning style questionnaire			
High	Low	Activist	Pragmatist	Reflector	Theorist
Extraversion	Introversion	47***	29***	-23***	05
1. Active	Inactive	29***	24***	-14***	9**
2. Sociable	Unsociable	37**	8*	-25***	-11**
3. Expressive	Inhibited	45***	8*	-24***	-10**
4. Assertive	Submissive	34***	21***	-29***	0
5. Ambitious	Unambitious	14***	20**	1	20**
6. Dogmatic	Flexible	16***	25***	5	21***
7. Aggressive	Peaceful	17***	14***	-10**	7*
Neuroticism	Stability	-02	-06*	17***	01
1. Inferiority	Self-esteem	-11***	-15**	15***	-5
2. Unhappy	Happy	0	-9*	8**	-5
3. Anxious	Calm	3	-10**	7*	-4
4. Dependence	Autonomy	5	-9**	9**	-9*
5. Hypochondria	Sense of health	0	0	10**	-1
6. Guilt	Guilt freedom	7*	-1	8**	-1
7. Obsessive	Casual	-13***	14***	32***	32***
High psychoticism	Low psychoticism	46***	06	-38***	-25***
1. Risk taking	Careful	38***	5	-31***	-17***
2. Impulsive	Control	57***	2	-39***	-28***
3. Irresponsible	Responsible	26***	-11***	-20***	-27***
4. Manipulation	Empathy	16***	9*	-15**	0
5. Sensation-seek	Unadventurous	37***	8*	-18***	-9**
6. Tough-minded	Tender-minded	1	12***	-1	0
7. Practical	Reflective	-4	0	-13***	-10**
Dissimulation		11***	10***	-20***	-14***
Time taken		17***	2	-13***	-9**
Can't decide		4	3	-1	1

^a $N=811$. * $P<0.05$; ** $P<0.01$; *** $P<0.001$.

Table 3

Overall correlations between the EPP and NEO questionnaires with the LSQ and MBTI questionnaires^a

Questionnaire	MBTI				LSQ			
	E-I	S-N	T-F	J-P	Ac	Pr	Re	Th
NEO								
E	−70***	11	4	2	28***	14*	−10	4
N	25***	5	19	0	3	−10	15*	7
O	−22**	48***	−24***	17**	14*	1	−9	−4
C	4	−16	−23**	52***	−18**	6	3	6
A	0	−4	47***	6	−17**	−2	−2	−9
	N = 160				N = 160			
EPP								
E	−53***	13*	−21**	25***	47***	29***	−23***	5
N	25***	−13*	15*	−5	−2	−6	17***	1
P	−14**	15**	−8	48***	46***	6	−38***	−25***
EPP								
E	−54**	12	0	37**	43**	28**	−20**	10**
N	19**	−13*	36**	3	7	−2	15**	1
O	−3	39**	6	1	−5	−10**	19**	5
C	1	−7	44**	−12	−49**	13**	42**	42**
A	−22**	−16**	−45**	1	−19**	−3	−14**	−14**
	N = 263				N = 811			

^a Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. Correlations of the NEO-PI with the MBTI and LSQ are taken from Furnham (1996a,b) with $N = 160$. Three and five-factor solutions to the Eysenck Personality Profiler are presented. Scale names most similar to the NEO-PI were chosen to represent the five-factor solution to the EPP.

EPP (both solutions) and the NEO-PI have only relatively modest correlations with any of the MBTI scales.

Although there are high correlations between the three-factor solution to the EPP and the LSQ, the correlations between the NEO-PI and the LSQ are all relatively low with the highest between Extraversion and Activist ($r = 0.28$, $P < 0.001$). The five-factor solution to the EPP tends not to be an improvement over the three-factor solution in that only two factors show any sizeable overlap to the LSQ. The EPP scale of Conscientiousness has a similar relationship to Psychoticism in its overlap with the LSQ and the EPP scales of Agreeableness and Openness do not seem to correlate with the LSQ. Neuroticism in the NEO-PI, and in the two solutions to the EPP do not have high correlations with the LSQ.

4. Discussion

When the overlap of the three superfactors of the EPP with the MBTI is compared with the overlap of the superfactors of the NEO-PI with the MBTI, it appears that the factor structure of the NEO-PI is closer to that of the MBTI. The NEO-PI has at least one superfactor correlated

highly on all the MBTI dimensions whereas the three-factor solution to the EPP correlated highly on just two of the MBTI dimensions. We predicted that this would be the case because the MBTI and the NEO-PI are broad, multi-dimensional questionnaires that aim to describe and classify people. We also found that a five-factor solution to the EPP was more similar to the MBTI than the three-factor solution of the EPP. These results provide evidence that the ‘big five’ provides the most parsimonious set of factors to *describe* personality. However there is a different story when the overlap of the NEO-PI and the EPP with the LSQ is examined. Activists and Pragmatists are fairly similar, as are Reflectors and Theorists in that they show a similar pattern of correlations with the EPP scales. Although, as Furnham (1992, 1996b) found, it is the Activist and Reflector scales which seem most consistently related to two of the three Eysenckian factors; in fact both Extraversion and Psychoticism overlap fairly extensively with the LSQ scales (accounting for about 20% of the common variance). In contrast the NEO-PI contains hardly any meaningful overlap with any of the LSQ scales, except perhaps between Extraversion and Activism. Moreover the five-factor solution to the EPP seems not to provide an improvement over the three-factor solution. These results suggest a stronger link between Eysenckian models of personality and the way people learn than between five-factor models and learning. Since learning is causally related to personality, the EPP would seem to have some advantages in being able to *explain* personality.

The overlap at the trait level of the EPP with the LSQ also provides some additional support for Jackson and Lawty-Jones (1996) contention that some personality traits are more related to Kolb’s (1984) learning cycle than others. Need for stimulation (Active), Neurotic traits and Tough-minded traits (Aggression, Dogmatism, Practical, Irresponsible and Tough-mindedness) are unrelated to learning styles whereas sociability (Sociable, Assertive and Expressive), Impulsiveness and Disrespect for rules (Sensation seeking, Risk-taking and Obsessiveness) are strongly related to learning style. These results provide further support for the notion that some traits of personality may have a learnt, part-learnt or socially shaped basis whereas others are less shaped by experience or socialization.

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