

IMPULSIVENESS AND VENTURESOMENESS IN CHILDREN

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Summary—A 63-item questionnaire containing items measuring impulsiveness, venturesomeness and empathy was given to 299 boys and 204 girls; 251 of these boys and 143 of these girls were also administered the Junior Eysenck Personality Questionnaire, measuring Psychoticism (P), Extraversion (E), Neuroticism (N), and dissimulation (L scale, also possibly a measure of conformity). Factor analysis of the intercorrelations between items verified the existence of three major factors similar to those postulated. Reasonable reliabilities were found for the impulsiveness and venturesomeness scales, but not for the empathy scale. Impulsiveness was correlated with P and N, negatively with L and only slightly with E. Venturesomeness was correlated with E, and rather less strongly with P and negatively with L. Empathy correlated negatively with P, and slightly positively with N. It is suggested that the validity of the scales should be established by using suitable external criteria.

In a previous study (Eysenck and Eysenck, 1978) we have reported on impulsiveness and venturesomeness (sensation seeking), and their position in a dimensional system of personality description; we also studied the position of empathy in relation to these other variables. Factor analysis of the questionnaire specially constructed for the purpose resulted in three factors similar to those postulated, and made possible the construction of scales for their reliable measurement. These scales were then located in the three-dimensional space created by the three higher-order factors of Psychoticism, Neuroticism and Extraversion (Eysenck and Eysenck, 1969, 1976). Venturesomeness and impulsiveness correlated positively with P and E, but while venturesomeness correlated negatively with N, impulsiveness correlated positively. Empathy only correlated with N, in the positive direction. The three primaries were largely independent of each other. Men were higher on venturesomeness and lower on empathy; there were no sex differences on impulsiveness.

The present study was undertaken to see to what extent these findings could be replicated in a sample of children. The questionnaire was reworded somewhat in order to appeal to children, and is reproduced as an Appendix to this paper. Most of the changes are relatively slight. The questionnaire was applied to 299 boys and 204 girls. In addition, the Junior EPQ (Eysenck and Eysenck, 1975) was given to 251 boys (mean age 11.8 ± 1.5) and 143 girls (mean age 10.5 ± 0.8); the remaining boys and girls were also given the JEPQ, but no names were included for these so that the questionnaire could not be identified and properly allocated.

A factor analysis was undertaken of the 63 items of the questionnaire, extracting three factors by principal components, and then rotating these factors by Varimax followed by Promax. Very little by way of residual correlation was left after the extraction of these factors. Table 1 shows the loadings, for boys and girls (M and F) separately, of the 24 items which had constituted the impulsiveness factor for the adults; also shown are five additional items which seemed to load on this factor. Item numbers are given to make identification possible, and a minus sign in front of the item number indicates that the 'no' answer is the correct one for scoring. Taking both sexes into account, it would seem that while the majority of items behave in the expected manner, items 7, 16, 33, 34 and 54 have too low loading for one or both sexes to be acceptable. Items 2, 3 and 23 are acceptable substitutes.

Table 1. Loadings on impulsiveness items for boys and girls

| | Boys | | | Imp | Girls | |
|-----|-------|-------|-------|-------|-------|-------|
| | Imp | Vent | Emp | | Vent | Emp |
| 3 | 0.26 | 0.21 | 0.18 | 0.38 | 0.02 | -0.08 |
| 7 | -0.00 | 0.07 | -0.05 | -0.08 | 0.08 | -0.29 |
| -9 | -0.14 | -0.17 | 0.18 | -0.37 | 0.08 | -0.03 |
| 12 | 0.44 | 0.14 | 0.02 | 0.48 | 0.00 | 0.06 |
| 15 | 0.65 | -0.05 | -0.12 | 0.58 | -0.01 | -0.10 |
| -16 | -0.03 | -0.21 | 0.29 | -0.08 | -0.17 | 0.03 |
| 18 | 0.69 | -0.06 | 0.16 | 0.46 | 0.00 | 0.01 |
| 21 | 0.46 | -0.16 | -0.23 | 0.54 | -0.08 | -0.10 |
| 24 | 0.60 | 0.04 | 0.06 | 0.35 | 0.00 | -0.01 |
| -27 | -0.53 | -0.05 | 0.12 | -0.40 | -0.19 | 0.06 |
| 30 | 0.53 | 0.07 | 0.00 | 0.48 | 0.17 | 0.14 |
| 33 | 0.23 | 0.24 | -0.40 | 0.38 | 0.17 | -0.11 |
| -34 | -0.12 | 0.07 | 0.34 | -0.12 | 0.04 | 0.46 |
| 36 | 0.53 | -0.05 | -0.04 | 0.43 | 0.16 | 0.10 |
| 39 | 0.39 | -0.05 | 0.08 | 0.33 | 0.04 | 0.12 |
| 42 | 0.42 | 0.09 | 0.01 | 0.49 | 0.08 | -0.09 |
| 45 | 0.46 | -0.01 | -0.04 | 0.30 | -0.07 | -0.24 |
| 48 | 0.36 | -0.04 | -0.17 | 0.08 | 0.07 | -0.27 |
| 51 | 0.49 | -0.13 | 0.08 | 0.34 | -0.16 | -0.30 |
| 54 | 0.28 | 0.05 | -0.21 | 0.24 | 0.08 | -0.40 |
| 56 | 0.34 | 0.01 | 0.10 | 0.25 | -0.07 | -0.12 |
| 57 | 0.26 | 0.03 | -0.15 | 0.22 | -0.04 | -0.28 |
| 60 | 0.19 | 0.04 | -0.03 | 0.18 | 0.06 | 0.03 |
| 63 | 0.34 | 0.02 | -0.09 | 0.38 | -0.12 | -0.14 |
| 2 | 0.25 | 0.12 | 0.11 | 0.42 | 0.14 | 0.18 |
| 23 | 0.34 | 0.07 | 0.16 | 0.35 | -0.15 | 0.14 |
| 53 | 0.24 | -0.04 | 0.07 | -0.03 | -0.10 | 0.17 |
| 13 | 0.22 | 0.15 | 0.07 | 0.23 | 0.06 | 0.13 |
| -38 | -0.10 | 0.16 | -0.25 | -0.29 | 0.16 | -0.17 |

Table 2 shows the loadings for venturesomeness, again giving first the 24 items expected to show high loadings, and then five items with promising loadings for one sex or for both sexes. Items 13, 40 and 55 are rather poor, and ought to be omitted; item 31 is a promising substitute.

Table 3 shows the loadings for empathy, again giving first the 19 items expected to show high loadings, and then 9 items with promising loadings for one sex, or for both sexes. Items 14, 17, 23, 38, 47, 50 and 53 are rather poor, and ought to be omitted; items 34 and 46 are promising substitutes. Scales were accordingly constructed for these three factors, using the items mentioned above as promising, and excluding those regarded as poor.

Table 4 gives the alpha reliabilities of the scales. It will be seen that, as with the adults, impulsiveness and venturesomeness have reasonable reliabilities, whereas empathy has rather poor reliability. This is particularly true of the boys; for the adults there was no sex difference corresponding to this. Possibly empathy has to be learned through life experiences, and is not properly developed in young children; this would make it difficult to measure in youngsters.

The intercorrelations among the factors are quite insignificant, except for a small positive correlation between impulsiveness and venturesomeness (0.15 and 0.24 for boys and girls respectively). Similar but rather higher correlations were found for the adult men and women. Table 5 gives the means and standard deviations of the scales. It will be seen that the boys are significantly more impulsive and venturesome, while the girls are more empathic; these findings are similar to those reported for adults, except that among adults there was no sex difference for impulsivity.

The correlations between these three scales and the P, E and N scales are of particular interest, because they clarify the position of the primaries in the general dimensional personality framework. Impulsiveness correlates with P (0.37, 0.34), with E (0.18, 0.16),

Table 2. Loadings on Venturesomeness items for boys and girls

| | Boys | | | Girls | | |
|-----|-------|-------|-------|-------|-------|-------|
| | Imp | Vent | Emp | Imp | Vent | Emp |
| 1 | 0.05 | 0.49 | 0.22 | 0.03 | 0.59 | 0.22 |
| -4 | 0.21 | -0.34 | -0.17 | 0.02 | -0.14 | -0.45 |
| 6 | -0.01 | 0.52 | -0.24 | 0.16 | 0.57 | -0.09 |
| 10 | 0.07 | 0.45 | 0.05 | -0.03 | 0.58 | -0.16 |
| 13 | 0.22 | 0.15 | 0.07 | 0.23 | 0.06 | 0.13 |
| -19 | 0.02 | -0.16 | 0.23 | 0.09 | -0.29 | 0.27 |
| 22 | -0.02 | 0.30 | -0.00 | -0.06 | 0.49 | -0.28 |
| 25 | 0.06 | 0.37 | 0.03 | 0.37 | 0.23 | 0.25 |
| 28 | 0.10 | 0.30 | 0.17 | -0.14 | 0.56 | 0.09 |
| -37 | 0.06 | -0.51 | 0.05 | -0.18 | -0.22 | -0.13 |
| -40 | -0.06 | 0.01 | 0.17 | -0.07 | 0.06 | -0.13 |
| -43 | 0.01 | -0.49 | 0.01 | 0.30 | -0.40 | -0.01 |
| 49 | 0.00 | 0.67 | -0.03 | 0.22 | 0.45 | 0.16 |
| 52 | 0.10 | 0.45 | -0.20 | 0.32 | 0.35 | -0.17 |
| -55 | 0.12 | -0.26 | -0.05 | 0.15 | -0.05 | 0.09 |
| 58 | 0.05 | 0.51 | 0.10 | 0.00 | 0.67 | 0.06 |
| 61 | 0.08 | 0.58 | 0.18 | -0.03 | 0.57 | -0.08 |
| -17 | 0.11 | -0.35 | 0.14 | 0.33 | -0.28 | 0.18 |
| 31 | 0.09 | 0.32 | -0.17 | 0.02 | 0.40 | 0.01 |
| -32 | 0.17 | -0.25 | 0.38 | -0.04 | -0.35 | 0.21 |

but most of all with N (0.44, 0.40) and L (-0.42, -0.53). Venturesomeness correlates with P (0.31, 0.28), highly with E (0.57, 0.62), but hardly at all with N (-0.07, 0.02); with L correlations negative (-0.33, -0.39). Empathy correlates negatively with P (-0.33, -0.43), not at all with E (0.00, 0.01), slightly with N (0.18, 0.20) and L (0.15, 0.10). The pattern is similar to that for adults, except that empathy correlates with P in the manner expected and predicted, but not found with adult men and women.

Table 3. Loadings on Empathy items for boys and girls

| | Boys | | | Girls | | |
|-----|-------|-------|-------|-------|-------|-------|
| | Imp | Vent | Emp | Imp | Vent | Emp |
| 5 | -0.08 | 0.09 | 0.51 | -0.01 | -0.01 | 0.63 |
| 8 | 0.26 | -0.02 | 0.25 | 0.29 | -0.08 | 0.26 |
| -11 | 0.00 | -0.16 | -0.33 | -0.16 | 0.00 | -0.39 |
| -14 | 0.19 | -0.07 | -0.24 | 0.18 | -0.03 | 0.03 |
| 17 | 0.11 | -0.35 | 0.14 | 0.33 | -0.28 | 0.18 |
| -20 | -0.06 | -0.11 | -0.23 | 0.02 | 0.09 | -0.52 |
| 23 | 0.34 | 0.07 | 0.16 | 0.35 | -0.15 | 0.14 |
| 26 | 0.16 | 0.03 | 0.61 | 0.05 | -0.00 | 0.52 |
| 29 | 0.11 | 0.13 | 0.44 | 0.17 | 0.04 | 0.51 |
| 32 | 0.17 | -0.25 | 0.38 | -0.04 | -0.35 | 0.21 |
| 35 | -0.05 | 0.07 | 0.10 | 0.25 | 0.03 | 0.26 |
| -38 | -0.10 | 0.16 | -0.25 | 0.29 | 0.16 | -0.17 |
| -41 | 0.11 | -0.14 | -0.27 | 0.08 | 0.03 | -0.58 |
| -44 | 0.03 | 0.05 | -0.40 | -0.02 | -0.02 | -0.30 |
| -47 | 0.16 | -0.15 | -0.12 | 0.39 | -0.28 | -0.20 |
| -50 | -0.13 | 0.14 | -0.26 | -0.12 | 0.16 | 0.06 |
| -53 | 0.24 | -0.04 | 0.07 | 0.03 | -0.10 | -0.17 |
| 59 | 0.02 | 0.01 | 0.42 | 0.11 | -0.08 | 0.34 |
| 62 | 0.14 | -0.05 | 0.29 | 0.02 | 0.00 | 0.32 |
| 16 | -0.03 | -0.21 | 0.29 | -0.08 | -0.17 | 0.03 |
| 19 | 0.02 | -0.16 | 0.23 | 0.09 | -0.29 | 0.27 |
| -33 | 0.23 | 0.24 | -0.40 | 0.38 | 0.17 | -0.11 |
| 34 | -0.12 | 0.07 | 0.34 | -0.12 | 0.04 | 0.46 |
| -4 | 0.21 | -0.34 | -0.17 | 0.02 | -0.14 | -0.45 |
| -7 | -0.00 | 0.07 | -0.05 | -0.08 | 0.08 | -0.29 |
| 46 | -0.12 | -0.03 | 0.17 | 0.01 | -0.02 | 0.36 |
| -48 | 0.36 | -0.04 | -0.17 | 0.08 | 0.07 | -0.27 |
| -54 | 0.28 | 0.05 | -0.21 | 0.24 | 0.08 | -0.40 |

Table 4. Reliability of scales for boys and girls

| | Imp | Vent | Emp |
|---|------|------|------|
| M | 0.78 | 0.71 | 0.54 |
| F | 0.75 | 0.73 | 0.68 |

Table 5. Means and Standard Deviations for boys and girls

| | Imp | | Vent | | Emp | | <i>n</i> |
|---|-------|------|-------|------|------|------|----------|
| | M | S.D. | M | S.D. | M | S.D. | |
| M | 13.07 | 4.43 | 10.93 | 2.76 | 8.51 | 2.46 | 299 |
| F | 11.95 | 4.18 | 8.95 | 3.18 | 9.80 | 2.73 | 204 |

Table 6. Means and Standard Deviations on P, E, N and L scales for boys and girls

| | Boys | | Girls | |
|---|-------|------|-------|------|
| | M | S.D. | M | S.D. |
| P | 4.82 | 3.19 | 3.12 | 2.59 |
| E | 18.97 | 3.85 | 18.17 | 3.73 |
| N | 11.17 | 4.35 | 12.25 | 4.54 |
| L | 7.44 | 4.32 | 10.26 | 4.71 |

Table 6 gives the means and S.D.s of the boys and girls for P, E, N and L; these show that the sample was similar to the standardization sample. As usual, boys have higher P and E scores, girls higher N and L scores. The intercorrelations among these scores are also as usual, with only the PL correlations of any significance (-0.33 , -0.48).

The main conclusion we may come to as a result of this study is that impulsivity and venturesomeness can be measured with sufficient reliability in children as well as in adults, but that empathy would require a better scale before it can be regarded as satisfactorily measurable, at least for individual cases. The correlations of these various factors with P, E, N and L are pretty much as expected on the whole, suggesting fairly precise locations of the primaries with respect to the higher-order. The various primaries are relatively independent of each other, and show sex differences very much as expected on common sense grounds. In the absence of an external criterion, little can be said about the validity of the scales; further work is clearly required correlating them with external criteria of one kind or another.

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APPENDIX

JUNIOR I.V.E. SCALE

Age.....

Sex.....

INSTRUCTIONS: Please answer each question by putting a circle around the 'YES' or the 'NO' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the question.

PLEASE REMEMBER TO ANSWER EACH QUESTION

- | | | |
|---|-----|----|
| 1. Would you enjoy water skiing? | YES | NO |
| 2. Do you sometimes get so restless that you cannot sit in a chair long? | YES | NO |
| 3. Do you often long for excitement? | YES | NO |
| 4. Usually do you prefer to stick to sweets and foods you know, to trying new ones on the chance of finding something better? | YES | NO |
| 5. Would you feel sorry for a lonely stranger in a group? | YES | NO |
| 6. Do you quite enjoy taking risks? | YES | NO |
| 7. Do you like strong tasting medicines? | YES | NO |
| 8. Do you often get emotionally involved with your friends' problems? | YES | NO |
| 9. Do you save regularly? | YES | NO |
| 10. Would you enjoy parachute jumping? | YES | NO |
| 11. Do you think that people are too bothered about the feelings of animals? | YES | NO |
| 12. Do you often buy things on impulse? | YES | NO |
| 13. Would you prefer a job involving change, travel and variety even though it might be insecure? | YES | NO |
| 14. Do unhappy people who are sorry for themselves irritate you? | YES | NO |
| 15. Do you generally do and say things without stopping to think? | YES | NO |
| 16. Do you prefer quiet parties to noisy disco groups? | YES | NO |
| 17. Are you inclined to feel nervous when others around you seem to be nervous? | YES | NO |
| 18. Do you often get into a jam because you do things without thinking? | YES | NO |
| 19. Do you think hitchhiking is too dangerous a way to travel? | YES | NO |
| 20. Do you think it is silly for people to cry out of happiness? | YES | NO |
| 21. Do you usually work quickly without bothering to check your answers? | YES | NO |
| 22. Do you like diving off the highboard? | YES | NO |
| 23. Do people you are with have a strong influence on your moods? | YES | NO |
| 24. Are you an impulsive person? | YES | NO |
| 25. Do you enjoy new and exciting happenings and sensations, even if they are a little frightening and unusual? | YES | NO |
| 26. Does it affect you very much when one of your friends seems upset? | YES | NO |
| 27. Do you usually think carefully before doing anything? | YES | NO |
| 28. Would you like to learn to fly an aeroplane? | YES | NO |
| 29. Do you ever get deeply involved with the feelings of a character in a film, play or novel? | YES | NO |
| 30. Do you often do things on the spur of the moment? | YES | NO |
| 31. When the odds are against you, do you still usually think it worth taking a chance? | YES | NO |
| 32. Do you get very upset when you see someone cry? | YES | NO |
| 33. Do you often enjoy breaking rules that seem unreasonable to you? | YES | NO |
| 34. Are you rather cautious in unusual situations? | YES | NO |
| 35. Do you sometimes find someone else's laughter catching? | YES | NO |
| 36. Do you mostly speak before thinking things out? | YES | NO |
| 37. At a fairground, would you prefer to play darts and see sideshows to going on the big dipper and the dodgem cars? | YES | NO |
| 38. Are you generally calm, even when others around are worried? | YES | NO |
| 39. Do you often get involved in things you later wish you could get out of? | YES | NO |
| 40. Do you prefer traditional to new, unusual and sometimes not very tuneful music? | YES | NO |
| 41. When a friend starts to talk about his problems do you try to change the subject? | YES | NO |
| 42. Do you get so "carried away" by new and exciting ideas, that you never think of possible snags? | YES | NO |
| 43. Do you find it hard to understand people who risk their necks climbing mountains? | YES | NO |
| 44. Can you make decisions without worrying about other people's feelings? | YES | NO |
| 45. Do you get bored more easily than most people, doing the same old things? | YES | NO |
| 46. Do you prefer friends who are reliable to those who are excitingly unpredictable? | YES | NO |
| 47. Do you find it hard to understand why some things upset people so much? | YES | NO |
| 48. Would you agree that planning things ahead takes the fun out of life? | YES | NO |
| 49. Do you sometimes like doing things that are a bit frightening? | YES | NO |
| 50. Can you remain in a good mood even if those around you are depressed? | YES | NO |
| 51. Do you need to use a lot of self control to keep out of trouble? | YES | NO |
| 52. Would life with no danger in it be too dull for you? | YES | NO |
| 53. Do you become more irritated than sympathetic when you see someone cry? | YES | NO |
| 54. Would you agree that almost everything enjoyable is not allowed or against the law? | YES | NO |
| 55. Generally do you prefer to enter cold sea water gradually to diving or jumping straight in? | YES | NO |
| 56. Are you often surprised at people's reactions to what you do or say? | YES | NO |

57. Do you get extremely impatient if you are kept waiting by someone who is late? YES NO
58. Would you enjoy the sensation of skiing very fast down a high mountain slope? YES NO
59. Do you like watching people open presents? YES NO
60. Do you think an evening out is more successful if it is unplanned or arranged at the last
moment? YES NO
61. Would you like to go scuba diving? YES NO
62. Would you find it very hard to break bad news to someone? YES NO
63. Do you get very restless if you have to stay around home for any length of time? YES NO

PLEASE CHECK TO SEE THAT YOU HAVE ANSWERED ALL THE QUESTIONS.