

IMPULSIVENESS AND VENTURESOMENESS: THEIR POSITION IN A DIMENSIONAL SYSTEM OF PERSONALITY DESCRIPTION

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Summary.—A 63-item questionnaire was constructed for the measurement of three primary personality traits; impulsiveness, venturesomeness, and empathy. This questionnaire, together with the Eysenck Personality Questionnaire which measures personality dimensions Psychoticism, Neuroticism, and Extraversion, was administered to 402 male and 787 female adult subjects. Factor analysis of the questionnaire 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 Psychoticism, Extraversion, and Neuroticism, and it was found that Venturesomeness and Impulsiveness correlated positively with Psychoticism and Extraversion, but while Venturesomeness correlated negatively with Neuroticism, Impulsiveness correlated positively with Neuroticism. Empathy only correlated with Neuroticism (positively). 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. A discussion is given of the psychological meaning of such factors as those here reported.

The design of a rational system of personality description has many difficulties (Eysenck, 1977), not the least of which is the hierarchical nature of any model which attempts to imitate nature (Eysenck, 1947). The respective positions of "primary" and higher-order factors are difficult to establish; so-called "primaries" can easily be split into sub-factors, and higher-order factors may coalesce through the addition of intermediary items. In recent years there has been much interest in the position of "impulsiveness" and "sensation-seeking" (Eysenck & Zuckerman, 1978; Eysenck & Eysenck, 1977) within the dimensional system proposed by Eysenck and Eysenck (1969, 1976), i.e., a system which essentially consists of three higher-order factors Psychoticism, Extraversion, and Neuroticism, together with a Lie scale to measure dissimulation but also under conditions of little dissimulation providing a measure of conformity (Eysenck & Eysenck, 1976). Impulsiveness has been regarded as one of the major factors (together with sociability) making up Extraversion (Carrigan, 1960), and sensation-seeking has also been found to contribute to that factor (Eysenck & Zuckerman, 1978). The relative positions of impulsivity and sensation-seeking, and their partial overlap which is suggested by the nature of the questions involved in their measurement, have not been investigated, and neither is there much evidence about the possible influence of Psychoticism on these two "primaries." The present article is directed toward a clarification of these points.

The term "primaries" has been put in inverted quotations in the preceding sentence because both Impulsiveness and Sensation Seeking can be subdivided into sub-scales which, while positively correlating with each other, are in part independent (Eysenck & Eysenck, 1977; Eysenck & Zuckerman, 1978). Thus Impulsiveness can be subdivided into risk-taking, non-planning, liveliness, and (narrow) impulsivity, while Sensation Seeking can be subdivided into thrill-and-adventure-seeking, experience seeking, disinhibition, and boredom susceptibility; some of these concepts seem to overlap considerably, e.g., thrill and adventure seeking and risk-taking. A series of studies was therefore planned to look in detail into these hypothetical relationships. As a first step, the alternative-answer type of format used by Zuckerman was changed into a "Yes-No" format, and 84 items representative of the four Zuckerman and three of the Eysenck scales (omitting the liveliness items, which appeared to align more with Sociability than Impulsiveness) were administered to 167 adult males and 204 adult females. Factor analysis of the resulting matrices failed to disclose seven factors; as expected, there was much overlap between the two sets of scales, particularly between the thrill and adventure seeking and the risk-taking ones. The best solution appeared to be one which postulated two factors, which were labeled Impulsiveness and Venturesomeness; the latter is made up of the majority of the thrill and adventure seeking items, plus some risk-taking items plus some items from other scales. Alpha reliabilities for the two scales were satisfactory, ranging from .79 to .84, for men and women separately. There were no sex differences on Impulsiveness, but on Venturesomeness men were significantly higher.

Both Impulsiveness and Sensation-seeking/Venturesomeness appear to have a strong genetic basis (Eaves, Martin, & Eysenck, 1977; Fulker, in press), and there is evidence that Impulsiveness is linked with Extraversion both genetically and through environmental pressures (Eaves & Eysenck, 1975). Attempts to analyze the genetic contribution on a seven-factor basis (unpublished) ran into severe difficulties, possibly because of the overlap mentioned between factors in the two sets, and this fact also makes it important to arrive at a more clean-cut solution to the factorial problem.

The present study was thus undertaken to extend the earlier (unpublished) findings and to discover the relationship between any factors discovered and the fundamental Psychoticism, Extraversion, and Neuroticism factors which furnish the general descriptive schema of personality here adopted. The expectation was that both Impulsiveness and Venturesomeness would correlate positively with both Extraversion and Psychoticism, and negatively with Neuroticism; that Impulsiveness \times Venturesomeness would not correlate highly with each other, once items producing such correlation had been removed, e.g., risk-taking items to Venturesomeness; and that sex differences would be produced in line with those previously observed.

THE EXPERIMENT

Method

A 63-item questionnaire was constructed, containing those items which appeared in previous analyses to be most highly loaded on Impulsiveness and Venturesomeness. To the 42 items thus selected were added 21 items from the Mehrabian and Epstein (1972) empathy scale, partly to act as buffer items breaking up what otherwise is a rather monotonous scale of fairly similar items, and partly to investigate the relationship of Empathy to Psychoticism, Extraversion, and Neuroticism, about which nothing was known. The questionnaire is reproduced in the appendix. This scale, together with the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) was administered to 402 males and 787 females, with an average age of 26.41 yr. (*SD*, 10.43) for the males, and 22.84 yr. (*SD*, 7.57) for the females. The subjects did not constitute a random sample of the population but were rather varied, including nurses, social workers, members of Mensa, students of education, medicine and other subjects, employees of a publishing company, etc. Eysenck and Eysenck (1976) have shown that social class is not at all closely related to personality as measured by the Eysenck Personality Questionnaire, and consequently sampling with equal representation of social class in mind seems to be supererogatory.

The Eysenck Personality Questionnaire scales were scored as indicated in the manual. Product-moment intercorrelations were calculated for the 63 items of the Impulsiveness-Venturesomeness-Empathy questionnaire, separately for the two sexes, and a factor analysis performed. Details of the analysis are given below.

Results

Three factors were extracted from the matrices of correlations for the men and women respectively, and rotated by Promax into oblique simple structure. The three factors in each case could be identified without difficulty in terms of the hypothesized traits of Impulsiveness, Venturesomeness, and Empathy. Table 1 shows the factor loadings on the items finally selected to make up the Impulsiveness scale; factor loadings on the items finally selected to make up the Venturesomeness scale; and factor loadings on the items finally selected to make up the Empathy scale. The scales so made up have appropriate consistency; alpha reliability coefficients are given in Table 2, showing that the Empathy scale is rather weak, but that the other two scales are satisfactory. Mean scores on the scales are given in Table 3, as well as the mean scores on the Psychoticism, Extraversion, Neuroticism, and Lie scales. Sex differences are prominent, with men showing more Venturesomeness, women more Empathy. Similarly, men show more Psychoticism, women more Neuroticism and higher Lie scores; these findings are in line with standardization data on the Eysenck Personality Questionnaire. The factors are reasonably independent (Table 4); the scales (particularly Impulsiveness and Venturesomeness), less so.

TABLE 1
 FACTOR LOADINGS FOR MALES AND FEMALES:
 IMPULSIVENESS, VENTURESOMENESS, AND EMPATHY

Item	Males			Females		
	Impul- siveness	Venture- someness	Em- pathy	Impul- siveness	Venture- someness	Em- pathy
	Impulsiveness					
3	.23	.29	.16	.35	.11	.07
7	.38	-.05	.17	.36	-.03	.01
-9	-.23	-.22	-.06	-.24	-.11	-.03
12	.45	.16	.00	.54	.03	.08
15	.73	-.11	-.06	.64	-.21	-.06
-16	-.30	-.27	-.02	-.36	-.15	.02
18	.67	-.11	.07	.63	-.16	.02
21	.39	.26	.12	.35	.14	-.05
24	.60	.23	-.04	.63	.09	.02
-27	-.65	.03	.09	-.61	-.02	-.01
30	.57	.19	.04	.61	.11	.03
33	.37	.11	.12	.38	.14	-.06
-34	-.36	-.09	.12	-.25	-.20	.11
36	.68	-.15	-.03	.53	-.17	.00
39	.53	-.10	.13	.45	-.14	.01
42	.52	.02	.00	.51	.00	-.02
45	.29	.25	-.09	.41	.09	-.11
48	.36	.17	-.15	.37	.06	-.12
51	.47	.02	-.06	.43	.03	-.10
54	.26	.09	.02	.32	-.05	-.10
56	.43	-.10	.04	.33	-.04	-.13
57	.41	-.16	-.08	.27	-.17	-.12
60	.33	.23	-.05	.38	.10	.05
63	.33	.22	.03	.34	.13	-.02
	Venturesomeness					
1	-.05	.52	.08	-.05	.51	.05
-4	-.03	-.23	.07	-.14	-.19	.02
6	.09	.56	-.01	.26	.53	.05
10	-.06	.65	.02	-.04	.64	-.05
13	.31	.40	-.07	.23	.44	-.07
-19	-.15	-.28	.01	-.13	-.33	-.00
22	.04	.41	-.06	.00	.43	-.08
25	.09	.53	.02	.24	.53	.11
28	-.12	.47	.03	-.10	.56	-.02
-37	-.24	-.27	.03	-.10	-.24	.04
-40	-.15	-.34	-.05	-.23	-.14	-.11
-43	.12	-.46	.02	.17	-.47	-.18
49	.05	.54	.01	.13	.55	.11
52	.25	.42	-.01	.27	.40	.01
-55	-.05	-.30	-.02	.04	-.33	.02
58	-.04	.64	.07	-.02	.56	.02
61	-.13	.62	-.02	-.04	.58	.05

(Continued on next page)

TABLE 1 (CONT'D)
 FACTOR LOADINGS FOR MALES AND FEMALES:
 IMPULSIVENESS, VENTURESOMENESS, AND EMPATHY

Item	Males			Females		
	Impul- siveness	Venture- someness	Em- pathy	Impul- siveness	Venture- someness	Em- pathy
			Empathy			
-2	.10	-.23	-.21	.05	-.19	-.20
5	-.10	.08	.36	-.09	-.01	.37
8	.10	.15	.37	.22	-.07	.50
-11	.14	-.24	-.19	.05	-.06	-.27
-14	.19	-.01	-.20	.15	.02	-.32
17	.16	-.22	.44	.14	-.24	.26
-20	.17	-.12	-.38	.14	-.12	-.50
23	.30	-.11	.46	.17	-.18	.26
26	.05	.08	.48	.04	-.04	.59
29	.13	-.03	.30	.08	-.03	.31
32	.23	-.10	.40	.17	-.18	.49
35	.03	.09	.32	-.06	.08	.27
-38	-.22	.27	-.35	-.21	.19	-.21
-41	.26	-.15	-.28	.13	-.10	-.31
-44	.13	.09	-.54	.01	.04	-.35
-47	.29	-.21	-.31	.17	-.15	-.46
-50	-.03	.10	-.43	-.19	.27	-.11
-53	.21	-.16	-.41	.19	-.06	-.51
59	-.14	.18	.29	-.19	.03	.20
62	.11	-.19	.40	.07	-.14	.20

Table 4 also shows the correlations between the three scales and Psychoticism, Extraversion, Neuroticism, and Lie scales. As anticipated, Venturesomeness correlates more with Extraversion, Impulsiveness more with Psychoticism, for both sexes, although clearly both traits correlate positively with Extraversion and Psychoticism. Thus high Extraversion—high Psychoticism scorers are predisposed to be both impulsive and venturesome. The two traits diverge in relation to Neuroticism; high Neuroticism scorers are impulsive but not venturesome—as indeed common sense might have anticipated. Both Impulsiveness and Venturesomeness correlate negatively with the Lie scale, which is probably more an indication of the low conventionality of high Impulsiveness/Venture-

TABLE 2
 CONSISTENCY RELIABILITIES OF THREE SCALES FOR MEN AND WOMEN

Scale	Men	Women
Impulsiveness	.851	.822
Venturesomeness	.791	.775
Empathy	.654	.637

TABLE 3
MEANS AND STANDARD DEVIATIONS OF MALE AND FEMALE
SUBJECTS ON SEVEN SCALES

	Impulsiveness	Venturesomeness	Empathy	
Males	10.49±5.40	10.82±3.68	11.61±3.13	
Females	10.70±4.95	9.02±3.74	14.07±2.73	
	Psychoticism	Extraversion	Neuroticism	Lie
Males	4.65±3.44	13.32±4.89	10.45±5.39	5.73±3.71
Females	3.03±2.58	13.55±4.76	12.71±5.11	6.40±3.68

someness scorers than of particular truthfulness. Neither Impulsiveness nor Venturesomeness correlates with Empathy. Empathy shows appreciable correlations only with Neuroticism; high Neuroticism scorers are clearly more empathic as again common sense would probably have predicted. The pattern of correlation is very similar for men and women, suggesting that the observed correlations have fairly general validity.

TABLE 4
INTERCORRELATIONS OF SCALES FOR MALES AND FEMALES

	1	2	3	4	5	6	7
Males							
1. Impulsiveness							
2. Venturesomeness	.413						
3. Empathy	.143	.081					
4. Psychoticism	.520	.331	-.050				
5. Extraversion	.391	.459	.072	.154			
6. Neuroticism	.376	-.096	.333	.152	-.113		
7. Lie	-.434	-.218	-.152	-.348	-.168	-.190	
Females							
1. Impulsiveness							
2. Venturesomeness	.323						
3. Empathy	.060	-.168					
4. Psychoticism	.491	.340	-.168				
5. Extraversion	.389	.421	-.146	.173			
6. Neuroticism	.297	-.215	.378	.074	-.206		
7. Lie	-.319	-.184	-.009	-.290	-.103	-.130	

DISCUSSION

The results suggest that we have been able to identify three "primary" factors of personality, each independent of the others, and locate each fairly precisely in the three-dimensional space created by the major higher-order factors Psychoticism, Extraversion, and Neuroticism. Such a demonstration does not necessarily mean that the three "primaries" exist in some epistemological sense of the word; whatever factors may be, they are surely *concepts*, and

concepts are useful in bringing order into the chaos of unselective observation, but they do not have any sort of physical existence (Eysenck, 1973). Thus, concepts can be useful or useless; they cannot be true or untrue. If the previously somewhat opaque picture has been clarified by the analysis reported, that is all that can be expected from such a study. It would, of course, be meaningful to ask whether these factors have validity in the sense of predicting social conduct or reactions in a laboratory experiment; such a demonstration must be the task of a later paper. Some evidence already exists to suggest that such a search would not be in vain (Eysenck, 1976).

The search for a position in three-dimensional space where our three "primaries" might be located only makes sense if the personality factors defining this space are in some meaningful sense different from the three "primaries" themselves; otherwise we might just as well try to locate Psychoticism, Extraversion, and Neuroticism in the space defined by Impulsiveness, Venturesomeness and Empathy. Eysenck (1977) and Eysenck and Eysenck (1969) have tried to argue that there are several criteria which distinguish such "primaries" as those here studied from higher-order concepts like Psychoticism, Extraversion, and Neuroticism; we shall not here repeat these arguments. Even from a purely heuristic point of view it might be said that, if common agreement could be obtained to refer all "primaries" to the three major dimensions of personality space, then considerable advantages would be obtained in ease of reference, in meaningfulness, and in comparability of results. Other advantages would be prediction of social and experimental correlates, and some greater understanding of the integration of personality traits. The fact that there is considerable agreement on these three major dimensions, from many different types of studies, carried out by many different investigators in a variety of countries, supports the plea for some such unification of personality study to be undertaken (Royce, 1973). The present study may serve as an example of how such an undertaking might be carried out to best advantage.

REFERENCES

- CARRIGAN, P. M. Extraversion-introversion as a dimension of personality: a reappraisal. *Psychological Bulletin*, 1960, 57, 329-360.
- EAVES, L., & EYSENCK, H. J. The nature of extraversion: a genetical analysis. *Journal of Personality and Social Psychology*, 1975, 32, 102-112.
- EAVES, L., MARTIN, N., & EYSENCK, S. B. G. An application of the analysis of covariance structures to the psychogenetical study of impulsiveness. *British Journal of Mathematical and Statistical Psychology*, 1977, 30, 185-197.
- EYSENCK, H. J. *Dimensions of personality*. London: Routledge & Kegan Paul, 1947.
- EYSENCK, H. J. *The measurement of intelligence*. Lancaster: Medical & Technical Publ., 1973.
- EYSENCK, H. J. *The measurement of personality*. Lancaster: Medical & Technical Publ., 1976.
- EYSENCK, H. J. Personality and factor analysis: a reply to Guilford. *Psychological Bulletin*, 1977, 84, 405-411.
- EYSENCK, H. J., & EYSENCK, S. B. G. *Personality structure and measurement*. London: Routledge & Kegan Paul, 1969.

- EYSENCK, H. J., & EYSENCK, S. B. G. *Manual of the Eysenck Personality Questionnaire*. San Diego: Educational and Industrial Testing Service, California, 1975.
- EYSENCK, H. J., & EYSENCK, S. B. G. *Psychoticism as a dimension of personality*. London: Hodder & Stoughton, 1976.
- EYSENCK, S. B. G., & EYSENCK, H. J. The place of impulsiveness in a dimensional system of personality description. *British Journal of Social and Clinical Psychology*, 1977, 16, 57-68.
- EYSENCK, S. B. G., & ZUCKERMAN, M. The relationship between sensation seeking and Eysenck's Dimensions of Personality. *British Journal of Psychology*, 1978, 69, 483-487.
- FULKER, D. Multivariate extensions of a biometrical model of twin data. *Proceedings of the 2nd International Congress on Twin Studies*. Washington, D. C.: Congress, 1977, in press.
- MEHRABIAN, A., & EPSTEIN, N. A measure of emotional empathy. *Journal of Personality*, 1972, 40, 525-543.
- ROYCE, J. R. The conceptual framework for a multi-factor theory of individuality. In J. R. Royce (Ed.), *Multivariate analysis and psychological theory*. London: Academic Press, 1973. Pp. 309-407.

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APPENDIX

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 public displays of affection annoy you? | Yes | No |
| 3. Do you often long for excitement? | Yes | No |
| 4. Usually do you prefer to stick to brands you know are reliable, 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 feel at your best after taking a couple of drinks? | 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 concerned 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 with good conversations to "wild" uninhibited ones? | 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 find it silly for people to cry out of happiness? | Yes | No |
| 21. Would you often like to get high (drinking liquor or smoking marijuana)? | 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 welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional? | 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 you consider unreasonable? | 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. Would you make quite sure you had another job before giving up your old one? | 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 discordant 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 illegal or immoral? | 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.