

A COMPARISON OF INTELLECTUALLY GIFTED AND ARTISTS

ON FIVE DIMENSIONS OF MENTAL FUNCTIONING

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Abstract

Intellectually (N=31) and artistically (N=13) gifted adults and graduate students (N=42) were compared on five dimensions of mental functioning also called forms of psychic overexcitability. These five forms are: psychomotor, sensual, imaginal, intellectual, and emotional. The subjects were administered an instrument, the Overexcitability Questionnaire (OEQ). A number of highly significant differences were found. Both groups of gifted scored higher than graduate students on four of the five dimensions, the greatest difference being on intellectual, imaginal, and emotional forms of overexcitability. The artistically and the intellectually gifted differ significantly on imaginal and emotional forms of overexcitability, the artists scoring higher on both. These results point to the link between emotional endowment and giftedness.

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The study reported here is one of a series of investigations in which different groups of gifted and talented are compared in terms of a model of developmental potential. The model defines five dimensions of mental functioning--psychomotor, sensual, intellectual, imaginal, and emotional--as five modes of processing information, both cognitive and experiential. There are many possible expressions of these five dimensions and their strength and complexity are a measure of developmental potential (Piechowski, 1979).

Briefly, to suggest some of their general character, the psychomotor mode (P) is expressed as movement, restlessness, drivenness, a capacity for being active and energetic; the sensual mode (S) - as surface contact, sensory pleasure, love of comfort, hedonism, and extraversion, a capacity for sensual enjoyment; the intellectual mode (T) - as logic, analysis, questioning, a capacity to search for scientific and philosophical truth; the imaginal mode (M) - as vividness of dreams, fantasies, personifications, animism, ideational fluency, strong and detailed visualization, a capacity for creative imagination; the emotional mode (E) - as attachments, affectional bonds, compassion, heightened sense of responsibility, moral concerns, a capacity for feeling, relating, and self-examination.

These five modes may be thought of as channels of information flow. They can be wide open, narrow, or operating at a bare minimum. Originally, they were called "forms of psychic overexcitability" (Dabrowski, 1938) and the term is still used. The term overexcitability is meant to convey the idea that this is a special kind of excitability, one that is enhanced and distinguished by characteristic forms of expression. Only when the expressions of "excitability" are beyond and above what may be considered common and average do they make a significant contribution to development (Dabrowski & Piechowski, 1977). Thus defined, forms of "overexcitability" are particularly prominent in the gifted and creative because there we find a higher level of energy and capacity for sustained effort (psychomotor OE), enhanced differentiation and aliveness of sensual experience (sensual OE), greater avidity for knowledge, discovery, and attitude of questioning and questing (intellectual OE), greater vividness of imagery, richness of associations, and capacity for detailed visualization (imaginal OE), and greater depth and intensity of emotional life (emotional OE). One may think of these five forms of overexcitability as the substrate of giftedness and creative talent.

Assessment of these five forms is accomplished by means of the Overexcitability Questionnaire (OEQ). The OEQ is a 21-item, free-response instrument. Subjects give their responses in writing and at their leisure. On each of the

21 items of the OEQ, one point is scored for each OE that can be identified in the response. In other words, the scoring is 0 or 1 for the absence or presence of a given OE in each response. The score is thus a simple frequency count and the highest possible score is 21 for each of the OE's. The items do not pre-determine the OE mode of the response. The scoring procedure is conservative in that responses minimally adequate to be regarded as an expression of an OE are given the same weight of 1 as responses that contain richly elaborated and multiple expressions of an OE in a given item. This, however, is compensated to some degree by the fact that subjects with abundant OE's tend to generate OE material with higher frequency, which is to say that more items of their OEQ protocols receive OE scores.

The OEQ protocols are rated independently by two raters. Disagreements on item scores are resolved by arriving at a consensus. The inter-rater correlation coefficient (Pearson's r) with different pairs of raters ranges from .60 to .95, the most common being .70 to .80. These r values are obtained prior to consensus.

The subjects were adults identified as gifted by membership in Mensa, high GRE scores (in the upper third of national norms), or known outstanding academic accomplishment, and artists who practiced various forms of art professionally or as a seriously followed avocation (they include a writer, a dancer, a rock singer, a classical singer, a poet, a film producer, a weaver, etc.). The N of the intellectually gifted was 31, the N of artists was 13.

Mean overexcitability scores for the two groups are given in Table 1.

As a group the gifted have the highest score on intellectual OE, next highest on emotional OE, followed by imaginational and sensual OE's. The artists have the highest scores on emotional and imaginational OE's, followed by sensual and intellectual OE's. Comparing the two groups, the most highly significant difference is on M ($p = .001$), and the difference on E is also significant ($p < .05$). The difference on T is a muted significance ($p < .10$) but interesting because one would actually expect the two groups to be farther apart in intellectual terms, the artist being usually thought of as driven by impulse and emotion, and the intellectual being given to cool logic and rational analysis. We must, however, remember how T is defined here--as a heightened excitability of analyzing, questioning, searching for truth and meaning. Content analysis of the artists' responses reveals their questioning and questing attitude. Artists ask many questions, they examine their feelings, they try to make sense of what they observe and what they want to express and how, they study their craft and often possess advanced technical knowledge, hence

their elevated score on intellectual overexcitability.

The artists' high score on M we take as an expression of their creative capacity because the characteristic expressions of imaginal OE--use of image and metaphor, vivid dreams and fantasies, vivid visualization, animism, predilection for fairy and magic tales, dramatizing, belief in ESP and psychic phenomena--all have been found to be associated with creativity (Dellas & Gaier, 1970; Davis, Peterson, & Farley, 1974; Khateña, 1975, 1976).

The artists' high score on E agrees with Langer's thesis that artists are experts in the knowledge of subjectivity, encompassing all forms of feeling (note well that we are speaking here of forms of feeling, not just diverse feelings). The whole range of human mentality--emotions, the sense of balance, the sense of time, formation of images, concepts, symbols, and logical thought--is encompassed here because to Langer, "feeling includes the sensibility of very low animals and the whole realm of human awareness and thought, the sense of absurdity, the sense of justice, the perception of meaning, as well as emotion and sensation" (Langer, 1967, p. 55). The work of the artist so conceived is to give form to everything in human experience, to thereby articulate it and make it accessible to repeated scrutiny, and thus to a knowledge of it. The work of art is thus understood to be an image of that experience, that form of feeling that possessed the artist with the urgency of its significance.

The results of our study show that the five-dimensional model of developmental potential enables us to begin to find significant differences in relation to different types of giftedness, creative artistic effort being one of them. But what about a comparison with a less distinct group so that we could see if perhaps what the artists and the intellectually gifted have in common is still above the average for another population. Table 2 shows the mean OE scores of our two groups in comparison with a reference group of 42 graduate students taken from a study by Lysy (1979).

The intellectually gifted are significantly higher than graduate students on intellectual ($p < .0001$) and emotional OE's ($p < .01$). They tend also to be higher in terms of sensual and imaginal OE's. That they should be so much higher on T is not surprising, but that they should be significantly higher on E is. This result indicates that not only artistic but intellectual giftedness as well tends to go together with higher emotional endowment.

The artists are much higher ($p < .005$) than graduate students on imaginal and emotional OE's; they are also higher in terms of sensual and intellectual OE's ($p < .05$). The difference on S may be interpreted as the artists' greater awareness of sensuous qualities and greater aliveness of sensual experi-

encing. But their significantly higher score on intellectual OE underlines what they have in common with the intellectually gifted--a questioning mind. The graduate students' low score here is disappointing and raises not unfamiliar questions about the nature of graduate education, which we shall refrain from pursuing here although it might be worthwhile to mention that this average score is identical to that of a population of women whose average years of schooling equal 15 (Beach, 1980) as compared to a minimum of 17 (first year of graduate school) for the graduate students.

In conclusion, the five-dimensional model presented here offers the means of distinguishing two groups of gifted, artistically and intellectually gifted, on three variables: imaginal, emotional, and intellectual OE's. Four variables distinguish the gifted and graduate students (some of whom, no doubt, are gifted but diluted out in an apparently ungifted population): emotional, intellectual, imaginal, and sensual OE's. The only variable that offers no discriminating power here is psychomotor OE. This variable, however, has been found to discriminate between males and females (Lysy, 1979), the males being more psychomotoric.

The unexpected result of the emotional dimension of the model being high in the intellectually gifted as well as in the artists, underscores the importance of emotional endowment in the makeup of gifted people. This has bearing on the relationship between the cognitive and the affective in education and in the identification of gifted children (Passow, 1981). And further, it stresses the need to study in more depth the emotional side of talent and the emotional needs of gifted children.

TABLE 1
MEAN OVEREXCITABILITY SCORES OF ARTISTS AND INTELLECTUALLY GIFTED

Overexcitability	Artists N=13	Intellectually Gifted N=31	p ^a
Psychomotor (P)	3.69 (2.29)	3.51 (1.63)	.958
Sensual (S)	5.62 (2.84)	4.42 (2.88)	.217
Intellectual (T)	5.31 (2.39)	7.22 (2.80)	.068
Imaginational (M)	9.08 (3.48)	5.03 (3.34)	.001
Emotional (E)	10.39 (4.54)	6.84 (3.90)	.024

Note. Standard deviations are in parentheses.

^aThe value of p was obtained by the Mann-Whitney test and represents the probability of the two samples having identical distribution of scores.

TABLE 2
COMPARISON OF MEAN OE SCORES OF ARTISTS, INTELLECTUALLY GIFTED,
AND GRADUATE STUDENTS

Overexci- tability (OE)	Artists N=13	Gifted N=31	Grads N=42	P Artists vs. Grads	P Gifted vs. Grads
P	3.69	3.52	3.00	.452	.182
S	5.62	4.42	3.36	.012	.112
T	5.31	7.23	3.40	.032	.0000
M	9.08	5.03	3.69	.000	.107
E	10.39	6.84	4.79	.0002	.010

Note. The value of p was obtained by the Mann-Whitney test and represents the probability of the two samples having an identical distribution of scores.

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