

Scientific Giftedness: Exploring the creativity correlates

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Abstract

Giftedness is a psychological phenomenon which refers to the power of the mind which actualizes in rare and precious performances of humankind. When exhibited in the scientific domain it has fundamentally altered the course of millions of lives. Unravelling the mysteries of scientific giftedness has been the purpose of research for centuries. Current traditions in psychology regarding the study of genius validate IQ as an appropriate indicator of giftedness with rich production in specific domains. The sample for the present study comprised of gifted youth from the science stream (IQ 115 and above) and non-gifted (IQ 95- 110) who were also from the same stream. Affinities of personality in the gifted and non-gifted were assessed along with creativity. The tests used in the study were Culture Fair Test (Scale 2, R. B. Cattell and A. K. S. Cattell, 1961), Torrance test of Creative Thinking (Figural forms, Torrance. E. Paul, 1974), NEO Personality Inventory (NEO PI-R, Costa & McCrae, 1992). The findings of the study present highly differentiated patterns of correlations between personality dimensions and creativity for the scientifically gifted and non-gifted which has significant implications for the unraveling of the dynamics of creativity.

Keywords: Scientific Giftedness, Creativity, Personality, Critical thinking.

Creative ability has distinguished human race from other beings in their struggle for survival. Due to this capacity to innovate, the creatively gifted individual progresses from a state of mere existence to that of incomparable comfort. The golden leaves of history are filled with the names of great people like Archimedes, Sir Isaac Newton, and Albert Einstein whose unusual novel experiments and discoveries in their respective domains created a revolution. Giftedness is thus an advanced ability to provide a meaningful construct to ordinary experience and it enhances the ability to think abstractly. A gifted person is seen as one who constantly combines and reconstitutes the ideas, images and thoughts in his or her conscious and subconscious mind. Leonardo da Vinci believed that one has to learn how to restructure problems in many different ways to gain knowledge about their various forms. Annemarie Roeper (1991) explains that gifted individuals are driven by

their power of giftedness. They prefer to explore, write about, compose, and indulge in activity that is uppermost in their minds. Their inner drive to learn and know keeps them involved in specific activities. The unusual mind and unusual emotions of the gifted individual lead them to the unusual experiences. In identifying the gifted the U.S. office of Education (Marland, 1972) validated that, "Gifted children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs or services beyond those normally provided by the regular school program in order to realize their contribution to self and society". Thus they have the potential for making a contribution to their own self-development and to the society as well. Their individual abilities enable them to make valuable contributions to the world. Most theoretical approaches vary widely on the cut-off IQ scores from where they define giftedness