

# Children's Giftedness and Its Determinants



**Ami Rokach\***

*Department of Psychology, Center for Academic Studies, Israel*

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\***Corresponding author:** Ami Rokach, Department of Psychology, Faculty of Health, York University, Canada, Tel: 905325085411;  
Email: arokach@yorku.ca

## Abstract

Some of the salient 'ingredients' of giftedness are reviewed. They include the origins of giftedness and creativity, is nature or nurture responsible for giftedness, characteristics of the gifted, and the role of their family in enhancing their talents and assisting them to address difficulties that they may face and which may be related to their giftedness.

**Keywords:** Giftedness; Creativity; Characteristics of the Gifted; Social and Emotional Experiences

## Introduction

We, the public, often hear success stories about young prodigies who grew up to become amazingly creative and successful adults, such as Mark Zuckerberg, Bill Gates Pablo Picasso, Mozart or even Lady Gaga [1]. Wallas[2] proposed a Four-Stage Model to describe for the creative process. That model highlighted the preparation, incubation, illumination, and verification stages of the creative process. Other researchers extended and revised that model, such as Guilford's [3,4] who emphasised ideational flexibility, fluency, and novelty, and Cropley's [5] who talked about attention to usefulness. In summary, there are a number of alternative, and rather ingenious ways that creativity and the creative process were described Pfeiffer [1].

## What is Giftedness

When the general public or researchers discuss giftedness, they often wonder whether nature or nurture contributes to it. And while lay people may see giftedness as innate, researchers found that it is a product of goal-directed hard work Ericsson & Lehman [6]. Examining piano and violin playing, chess bridge, and athletics performances, researchers found a significant positive correlation between practice and expertise [7]. However, on the other hand there are studies that concluded that giftedness is mainly a result of training. To wit, we may remember the description of eminent people who as children have already excelled at a very young age, before training was offered to them or was even possible. There is evidence to indicate that gifted children have atypical brain organization, which may be linked to genetics, the in utero environment, or an after-birth trauma Winner [7]. For instance, giftedness in math has been shown to be associated with superior visual-spatial abilities, and are nonright handed, meaning that the children's right hemisphere is disproportionately involved in their activities

[8]. Additionally, and quite unexpectedly, youth with very high IQs, have an increased occurrence of autoimmune disorders Temple [9]. An array of brain regions and mechanisms are utilized during the creative process, which indicates that no single area of the brain responsible for creativity. Creativity has been shown to activate retention, retrieval, working memory, and knowledge integration [10]. In addition to these processes, regions of the brain that play a role in creativity include the prefrontal cortex, hippocampus, inferior frontal gyrus, corpus callosum, and the premotor cortex [11,12]. Neurotransmitters also play a role in creativity, which has been associated with lower levels of norepinephrine (Heilman, 2016), and increased dopamine has been linked to greater artistic output [13]. Giftedness includes creativity as a central component. Sternberg, Jarvin and Gregorenko[14] conceptualized giftedness not only as including creativity but as a synthesis of wisdom, and intellect as well.

Research indicates that while the expression of giftedness seems to be inherited, we also know of children who grew up in impoverished environments are still able to exhibit giftedness, which may have been genetically transmitted to them. As a way to address, and possibly settle the nature vs. nurture issue regarding giftedness, However, researchers now agree that genetics is not enough and a nurturing environment is also required for the blooming of creativity [15]. Gifted children and adolescents will commonly display advanced language and reasoning skills, conversations and interests that would usually be found in people older than them, they would exhibit insatiable curiosity, rapid learning, many would express intense feelings, and some show moral sensitivity. Not all of these characteristics may be found in one child, and even when exhibited, each child may express and behave differently, even to the same internal cues [16].

Children and adolescents, even those who test at very high levels of cognitive ability, vary considerably in their creative expression [17]. Baer [18] observed that bright children who are prepared to work hard, and are provided facilitative opportunities, may develop exceptional domain-specific creativity [19]. This developmental progression what has been observed with elite athletes, dancers, writers and actors [19]; Pfeiffer & Valler [17]. Society, though, needs not only those “star” revolutionaries, but the highly talented experts [20]. Most gifted children do not become adult creators. Those creative individuals who do proceed to become revolutionaries in their fields and creators, are different from other gifted children. Those kids are often rebellious, they do not accept the status quo and push the limits, and their childhood was often marked by trauma [21]. They have a tendency to suffer from manic depression may indicate a link between creativity and psychopathology see Winner [7].

### Gifted Children: Their Social and Emotional Experiences

Since the 1940s gifted kids were researched, and it was found that those who had profoundly high IQs [180 or above] had social and emotional problems [22]. That is clear in light of more recent research that suggested that extreme levels of giftedness lead to isolation, since peers find it difficult to relate to those kids. Gifted children were found to be introverted and preferred to spend more time alone than their peers did. As introverts, they like their solitude, which is a prerequisite to the development of their talents. However when we deal with gifted adolescents we find that they like to be with others [while they also want and like their solitude] and yearn for peer contact [23]. It was found that as time passes by and they start to feel lonely and not accepted by peers, gifted adolescents hide their talents and perform within the range where their peers operate see also Kaufman, Plucker & Russell [24].

### Gifted Children: Social & Emotional Adjustment

At times, emotional problems interfere with the gifted performance, and so a gifted child may not perform in the gifted range on an IQ test, and thus not recognize as the gifted that s/he is Gross [22]. Additionally, gifted children are incorrectly diagnosed with psychiatric disorders, such as the case when elevated intensity and activity levels in these kids have been misdiagnosed as attention-deficit/hyperactivity disorder, due to their boredom, anxiety of being alienated by peers, and not knowing how to express their talents and still keep their peers by their side [25]. As we mentioned earlier, the gifted are not immune to the social and emotional challenges that all children feel and the turbulent times that they may undergo. That includes the full range of anxiety, suicidal ideation, depression, feelings of alienation, drug use, sexual promiscuity, and truancy Winner [7]. School authorities report the gifted to be bored, feel under challenged, unhappy, and some may get into conflicts with the teacher, due to their frustration. The educational staff [i.e. teachers, counselors, and parents as well] must be vigilant in monitoring, observing and detecting problems that the gifted struggle with and addressing

them before they become real obstacles to the child’s development See also [26]; Winner [7].

### How do Families Handle the Gifted?

Parents, while initially delighted to hear that their child is gifted, may later feel anxious that they do not know how to foster the child’s giftedness, feel inadequate, ill equipped or just unprepared to invest the time, effort, energy, financial resources, and not really know what is expected of them. That may affect the family life, and enhance the daily stresses that they have to deal with see also Winner [7]. Research contradicts the suggestion that parents of gifted are hard driving and over ambitious parents who will push and even demand that their child do well. The families of gifted children, it was found, are child centered and very focused on the child’s needs. Parents, apparently, do not create their child’s giftedness, but respond to it. Such as when they notice how incredibly talented their child may be, and they respond by devoting themselves to enhance the child’s talents. Gifted children were found in families with high levels of intellectual or artistic stimulation, but there is not enough research to determine whether those environments actually lead to giftedness [27]. To achieve in a performance domain such as music or athletics the kids must submit to a rigorous and continuous training. Parental direction, guidance and insistence is crucial in helping the child stick with such a demanding program. It was found that parents of gifted children grant them a great degree of independence which may be a result of the child’s demand to be allowed more freedom than other children may enjoy [28].

### Conclusion

This chapter highlighted research about giftedness and creativity, and the accepted understanding that both nature and nurture are responsible for producing and enhancing giftedness. It, thus, stands to reason that teachers, the educational system and parents ought to have high expectations of the gifted, and challenge them to achieve Winner [7]. It appears that complex families seem to produce or at least enhance giftedness in children [29] and so families must recognize, celebrate and cultivate the child’s achievements and creativity.

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