Charismatic Children: Heredity, Environment and ICTs

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Abstract

The aim of this article is to investigate whether or not charisma in children is considered inherited or not. There is no generally accepted definition of the gifted-charismatic child. However, various definitions of intellectual superiority include either general high capacity or high special capacity. The charisma of a child becomes apparent early in life. It can be considered as a biologically rooted label for a high level of intelligence, which shows an advanced and accelerating development of functions within the brain that allow its more efficient use. However, an interaction between the environment and the genetic framework creates intelligence, even the perception of reality. It is often difficult to separate the influences of genetics and the environment on human traits. Genetic traits do not appear instantly at the time of birth; instead, they tend to follow inherent epigenetic development pathways. Charismatic children develop asynchronously: their minds are often more ahead of their natural development and specific cognitive and emotional functions often develop differently at different stages of development. Finally, both the genetic material of the child, the environment within which the child grows and the ICTs usage and training, contribute to the development of charisma.

Keywords: charisma, intelligence, inheritance, environment

Introduction

Intellectual superiority is a mental capacity significantly higher than the average. Intellectual supremacy is characteristic of children, determined in a different way, that encourage differences in school planning. It is believed that intellectual superiority persists as a characteristic in adulthood, with various implications studied in longitudinal studies on talent (Singer et al., 2016; Kitsantas et al., 2017). There is no generally accepted definition of the gifted-charismatic child. However, the various definitions of intellectual superiority include either general high capacity or high specific capacity.

For example, in some definitions an intellectually endowed child may have an impressive talent in math without having equally strong language skills. In particular, the relationship between artistic capacity or musical capacity and high academic capacity, usually associated with high IQ scores, is investigated.

The identification of charisma originated for the first time after the development of IQ tests for placement in school. It has since become an important issue for schools, as the education of charismatic pupils often presents specific challenges. In the twentieth century, charismatic children were often classified through IQ tests. Other processes of identification of charisma have been proposed, but are only used in a minority of cases in most public schools in the English-speaking world (Davis et al., 2010, Callahan et al., 2012; McIntosh et al., 2012). The development of useful identification procedures for pupils who could benefit from a more demanding school curriculum is an ongoing problem in school administration (Kalbfleisch & Layne, 2012; McIntosh et al., 2012).
Definitions for charismatic children

For many years, following Terman’s theory (1916), psychologists thought that children with high IQ are charismatic. This view survives to this day, as it is believed that charisma and high IQ mean talent (Russell, 2016). Later, the view that the intellect could not be expressed in a single way prevailed, suggesting more versatile approaches to intelligence.

The research that was carried out in the 1980s and 1990s gave data that support the concepts of multiple components in the information. This is particularly evident in the review of charisma by Sternberg and Davidson (2005). The many different perceptions of talent presented, though distinct, are intertwined in several ways. Most of the researchers define talent with a variety of attributes, not all of them intellectual. The IQ scores are often seen as inadequate actions to characterize a child as charismatic. Motivation, high self-concept and creativity are key attributes in many of these expanded perceptions of charisma.

The Renzulli (1978) definition of the “three rings” refers to talented behaviors and not to charismatic individuals. According to Renzulli (1978), gifted behaviors consist of three components: The talented behavior consists of behaviors that reflect an interaction between three basic human characteristics - average capacity, high levels of commitment to tasks and high levels of creativity. Individuals who can develop talented behaviors are those who possess or are able to develop and apply this complex set of features. Individuals who develop or are able to develop this complex set of features need a variety of educational opportunities, which are usually not provided in regular curriculums.

For Johnsen (2011), the gifted children have all the potential for high performance in areas such as the intellectual, creative, artistic or leadership, or in specific academic fields (math, language, literature, music, visual arts). These children are in need of activities that are not usually provided at school in order to fully develop these abilities.

Most countries define the charismatic child as the child who performs or has the potential to perform at a remarkably high level of achievement as compared to his or her peers. In particular, the charismatic child presents high-performance capabilities in a intellectual, creative or artistic field, or demonstrates unusual leadership capacity or excellence in a particular academic field.

The main features of the above definitions are: a) the diversity of areas where high performance can be demonstrated (e.g. intellectual, creative, artistic, leadership, academic), b) the comparison with other groups (e.g. people with the same age, or the same experience or the same environment) and c) the use of terms suggestive of the need to develop charisma (e.g. possibilities) (Neumeister, 2017).

Assessment of Charisma

Many schools use a variety of assessments of the ability and capacity of charismatic pupils (Johnsen, 2011). These may include portfolio, classroom observations, achievement tests, and IQ test scores. Most teachers accept that no criteria can be used individually to accurately identify a charismatic child.

One of the criteria used to identify charismatic pupils may be the IQ test score. By the late 1960s, when “talent” was determined by an IQ score, a school district simply set an arbitrary score (usually in the range of 130). Today IQ tests are not acceptable in the academic circles. However, it is still used by many schools because it is simple. Although the high score of IQ is not the only indicator of charisma, usually, if a pupil has a very high IQ, he or she also demonstrates a high academic performance (Gottfredson, 2009).

IQ rankings vary from one publisher to another. IQ tests are perhaps only effective to determine if a pupil is charismatic and not to identify his or her talent levels. The Wechsler tests have a maximum score of 160. Today, Wechsler tests for children and adults are the most commonly used IQ tests (Georgas et al., 2003). Older versions of the Stanford-Binet...
test, which are now obsolete, and the Cattell IQ test yield IQ scores of 180 or higher, but these scores are not comparable to the scores in current normal tests.

While many theorists believe that charisma is a strictly quantitative difference, measurable by IQ tests, others describe charisma as a fundamentally different way of perceiving the world, which in turn affects every experience of the talented person. This view is disputed by some scholars who have studied meticulously the charismatic children over time (Feldman, 1984).

**Gifted children in different cultures**

   The attributes associated with talents vary between cultures. While intelligence is extremely important in the West and in some other cultures, it is not as important to the whole world. For example, in Japan, motivation and care is given more value. When Japanese pupils perform a task, more factors such as effort are being evaluated. In the US, the skills are being assessed. Therefore, when Japanese pupils fail, they attribute their failure to lack of effort, while for US students to lack the capacity (Shimomura, 2016).

   In rural Kenya four types of intelligence are identified: initiative, knowledge and skills, respect and understanding of how to deal with real life problems. Chesimet et al. (2016) report the Chinese belief that aspects of charisma are innate, but people can become charismatic with diligence, perseverance and learning.

   There are many reasons why charismatic pupils with a different cultural background, such as African American, American and Hispanic/Latin American, are not as successful in Western intelligence / achievement tests. The first reason is that the above populations do not use their knowledge only to give a correct answer, thereby demonstrating their knowledge, but using them to respond to original problems. They are also not familiar with the use of manuscripts in artificial laboratories. When tested with cultural prejudices, they perform poorly if the tests do not concern their own culture. Finally, they are anxious or suffer from the threat of stereotypes (Williams et al., 2014; Cross et al., 2015).

   The common traits of charisma between cultures are the following (Cross et al., 2015):

   - Advanced thoughts and creative thinking, creating ideas beyond the rule
   - Adaptability
   - Strong motivation to understand the world
   - Well developed vocabulary in mother tongue
   - Quick learning and development of ideas
   - Strong sense of justice and morality
   - Leadership skills (persuasion, initiative and guidance)
   - Understanding and use of humor beyond their age

**Developmental theory for charismatic children**

   Charismatic children develop asynchronously. This means that their minds are often more ahead of their natural development and specific cognitive and emotional functions often develop differently at different stages of development. A frequently referenced example of asynchronous cognitive development is Albert Einstein, who did not speak until the age of four, but whose later progress eliminated this initial delay. It has been said that charismatic children can move faster through stages created by post-Freudian developmental theorists such as Jean Piaget (Colangelo & Davis, 2003). Charismatic children perceive the world differently and are led to certain social and emotional issues.

   Francoy Gagne’s Differentiating Model of Giftedness and Talent (DMGT) (2015) is a developmental theory that distinguishes charisma from talent, providing explanations about how excellent physical abilities (charisma) evolve into special skills (talents) According Gagne’s theory “no one can become talented without being charismatic”. 

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There are six components that can interact with innumerable and unique ways that encourage the process of transition from the existence of physical abilities (charisma) to systematically developed skills (talent). The components consist of: a) charisma, b) the opportunity, c) the environment, d) the self, e) learning / practice and f) the result of talent. It is important to explain that a) the opportunity, b) the self, and c) the environment can facilitate and/or prevent learning and training in order for the child to acquire a talent. Learning/practicing is the coordinator. It is through interactions, both environmental and intrapersonal, that the process of learning and practice is affected, with or without the opportunity to turn the physical skills into talents (Gagné, 2015)

Multiple Intelligence

According to Gardner (2015), there are at least eight types of intelligence available to the human being that can develop from the beginning of a person’s life. These are: 1) musical, 2) body movement, 3) logic of mathematics, 4) language, 5) spatial, 6) interpersonal, 7) intrapersonal and 8) physiological intelligence. All eight types of intelligence are called Multiple Intelligences (MI). Each person has these eight intelligences to varying degrees and uses them differently every day (Roesdiyanto, 2014). Gardner’s multiple intelligence theory gives the view of the full potential of pupils. Therefore, the multiple abilities of pupils who are neglected should be appreciated and developed. The development of multiple intelligences can be early in the child’s life and a way to do it is through the early childhood educational institution.

The most common criticism on Gardner’s theory is the belief of scholars that each of the eight multiple intelligences are in fact a cognitive style and not a stand-alone construct. Others believe that theory is not quite empirical (Gilman, 2012). This perspective has also been criticized on the grounds that it is ad hoc in that Gardner does not extend the definition of the word “intelligence”, denies the existence of intelligence as is traditionally understood, and instead uses the word in terms of competence.

Identifying charismatic pupils using Gardner’s Multiple Intelligence model is a challenge, as there is no specific test to attribute the charismatic child definition. Assessment through observation is potentially more accurate, but potentially very subjective. Gardner’s theory can be applied not only to charismatic pupils, but to all pupils.

Characteristics of charismatic children

Social and emotional characteristics of charismatic children

Social isolation is a common feature in charismatic children, especially those who have no social network of charismatic peers. To gain popularity, charismatic children will often try to conceal their abilities to gain social acceptance.

Strategies include non-satisfaction and use of less vocabulary when they are among their peers than among family members or other individuals. Some believe that the isolation faced by charismatic children is not caused by charisma itself, but by the response of society to talent (Lough, 2017).

Perfectionism

Perfectionism, although considered to have many positive aspects, may be a problem for charismatic individuals. It is encouraged by the fact that charismatic individuals tend to be easily successful in many tasks. Healthy perfectionism refers to the existence of high standards, desire to achieve, conscientiousness or high level of responsibility (Neumeister, 2017). It is likely to be a virtue and not a problem, even if charismatic children may have difficulty with healthy perfectionism because they set standards that would be appropriate for their mental age (the level at which they think), but they cannot always meet them
because the social environment is restrictive. It has been said that perfectionism “is desirable when it stimulates the healthy pursuit of excellence” (Parker & Mills, 1996).

Some believe that perfectionism may be unhealthy. Unhealthy perfectionism stems from the equation of the individual’s value as a human being with his or her accomplishments and the convincing belief that any less than perfect work is unacceptable and will lead to criticism. Since perfectionism in most human activities is neither desirable nor powerful, this mental distortion creates self-restraint, performance anxiety, and ultimately procrastination (Margot & Rinn, 2016).

Unhealthy perfectionism can be caused or more than doubled by parents, siblings or classmates with good or bad intentions. Parents are usually proud and praise their charismatic child extensively. On the other hand, siblings, peers and schoolmates in general will envy the intellectual ease of the charismatic child and will tease him or her about any minor imperfection in his or her work, strength, clothing, appearance or behavior. Either the positive approach by parents or the negative reactions from siblings, schoolmates, and friends for minor imperfections will push these children to consider their value to their classmates equal to their abilities and to consider any defect as a serious flaw of their self. Unhealthy perfectionism can be more than doubled when the child resists those who have mocked him or her, with his or her own weapons, that is, their lower abilities, thus creating self-contempt for low or average performance (Closson & Boutilier, 2017).

There are many theories that try to explain the correlation between perfectionism and charisma. Perfectionism becomes a problem as it discourages and blocks achievements. Schuler (2002) identified five specific, overlapping types of behavior related to perfectionism. These are:

- depression,
- shame and feelings of guilt,
- dealing with the mood of a person,
- constraint and postponement,
- self-isolation.

Twice charismatic children

The notion of “twice charismatic children” was devised by James J. Gallagher in order to characterize those children who are both charismatic and disabled (Coleman et al., 2005). In other words, twice charismatic pupils are those who have two special needs. For example, a child may be charismatic and at the same time may demonstrate attention deficit disorder, or autism spectrum disorder. These pupils are a unique challenge for the educational system. Teachers who have such pupils in their class have to adapt their curriculum to meet the advanced learning needs of these pupils (for example, through acceleration or enrichment) (Krochak & Ryan, 2007).

Usually, pupils who are twice charismatic are not perceived by the educational system, which treats them either as low performers or as average learners (Nielson, 2002; Krochak & Ryan, 2007).

Early identification and intervention is critical. However, dual charisma is often identified later in the average population as it is covered by disability. Disabilities may include auditory processing weaknesses, sensory-motor integration issues, and perceived difficulties in vision, space disorientation, dyslexia and lack of attention. The identification of the learning difficulties among charismatic children becomes extremely difficult due to their ability to compensate for their difficulty.

Among the indications that a child can be twice charismatic are obvious inconsistencies between competences and results, deficits in short-term memory and attention and negative behaviors such as sarcasm, negative or aggressive (Shenfield, 2014).
Genetics and Charisma

The charisma of a child becomes apparent early in life. Studies from the early 1970s consistently show that such a development is the result of an interaction between the child’s genetic material and a rich and appropriate environment in which the child grows. No child is born charismatic. Although all children are amazing, only those who have the chance to have the opportunity to develop their uniqueness in an environment that meets their particular standards and needs will be able to tailor their skills to high levels. Research in psychology, neuroscience and linguistics can help parents to create appropriate environments that will allow their children to develop their full potential and become charismatic (Storfer, 1990).

Charisma can be considered as a biologically rooted label for a high level of intelligence, which shows an advanced and accelerated development of functions within the brain that allow its more efficient use.

While the old ideas of intelligence were generally limited to analytical and rational thought, charisma really includes an interaction of all areas of brain function, i.e. physical sensation, emotions, knowledge and intuition. The wider concepts of intelligence can be expressed through problem solving, creative behavior, academic ability, and leadership, performance in the visual and interpretive arts, the invention or a host of other human abilities. High intelligence, regardless of whether it is expressed in cognitive abilities such as the ability of generalization, perception or abstract justification, or in specific abilities such as creative behavior, arises from the interaction between inherited and acquired characteristics. This interaction involves all the physical, intellectual and emotional characteristics of the individual and of all people, events and objects that enter a person’s awareness (Czeizel, 2005).

An interaction between the environment and the genetic framework creates intelligence, even the perception of reality. This process starts very early. As the cells are divided and the embryo begins to grow, the environment is already beginning to exert a decisive influence. Limiting either nature (gene) or cultivation (environment) would hamper the high levels of true intellectual capacity called charisma (Witkowski & Inglis, 2009).

Genes are not a limit, but they provide a descriptive outline of the possibilities for life. Environmental interaction with the genetic material of the individual occurs either by programming or by accident. With conservative estimates, this interaction can lead to a difference of 20 to 40 points in measured intelligence. Teachers and parents should be aware that the environmental structure for their children changes neurologically and biologically. Without opportunities for a proper challenge, charisma and ability can be lost. From the above it is concluded that the development of intelligence includes both nature and development (Guenther, 2004).

It is often difficult to separate the influences of genetics and the environment on human characteristics. People with a similar genetic composition (e.g. siblings, parents and children) usually live in similar environments. So when there are similarities in IQ between members of the same family, it is difficult to know whether these similarities are due to the genes or the environment shared by family members. Both genetics and the environment affect intelligence (Simonton, 2005).

The information processing speed measures are correlated with the IQ results. The processing speed depends on the neurological efficiency and maturation, which are genetically controlled. In this respect, there is support for a hereditary basis for information (Perkins, 1995). The fact that children with certain genetic abnormalities (e.g. Down syndrome) have, on average, significantly lower IQ scores than their normal peers (Keogh & MacMillan, 1996), provides further evidence of the influence of heredity. But perhaps the most convincing evidence comes from twin studies and adoption studies.
Many studies have used monozygotic (identical) twins and dizygotic (fraternal) twins to obtain a picture of how intense heredity affects IQ. Because monozygotic twins begin as a single fertilized ovum that is then separated, they are genetically equivalent human beings. In contrast, dizygotic twins are considered to come from two separate fertilized ova. They share about 50 percent of their genetic material, while the other 50 percent is unique for each twin. If identical twins have more similar IQ scores than dizygotic twins, it is concluded that heredity affects intelligence (Robinson & Clinkenbeard, 2008).

Genetic characteristics do not appear instantly at the time of birth. Instead, they tend to follow inherent epigenetic growth pathways. This is why the identical twins that have been grown in separate homes still tend to become more and more uniform as they grow older. This convergence is in stark contrast to what is predicted if the impact of the environment increases with maturity (Simonton, 2005). As a consequence, any component that defines a given emerging form of charisma will tend to have its own characteristic trajectory. This epigenetic curve will decide when the development of the characteristic, the growth rate, and the age at which growth is declining and eventually completely stops. This means that the appearance of charisma must be dynamic rather than static.

In fact, the very nature of a person’s charismas evolves continuously during childhood, adolescence and early adulthood (Manning, 2006). It follows from the above that charisma is a complex phenomenon. To the extent that the epigenetic model that emerges describes heredity and the development of charisma, then a certain talent cannot be understood without first discovering whether it is an additive or a multiplier and whether it is simple or complex. Of course, the phenomenon of charisma is even more complex than what this model suggests. The environment in which the child grows also contributes to its charisma (Simonton, 2005a).

Conclusion

The incorporation of digital technologies in education domain is very productive and successful, facilitates and improves the educational procedures via Mobiles [51-60], various ICTs applications [61-94], AI & STEM [95-105], and games [106-112]. Additionally the combination of ICTs with theories and models of metacognition, mindfulness, meditation and emotional intelligence cultivation [113-150] as well as with environmental factors and nutrition [47-50], accelerates and improves more over the educational practices and results especially in charismatic children education.

From the above discussion it is concluded that charismatic children learn more quickly, deeply and widely than their peers. They can learn to read early and go on the same level as regular children who are older. Charismatic pupils also tend to exhibit a high capacity of reasoning, creativity, curiosity, great vocabulary and excellent memory. They can also understand concepts with a few repetitions. They are perfectionists and often question power. Some pupils have difficulty in communicating with their classmates because of differences in the size of the vocabulary (especially in the early years), personality, interest and motivation. As children, they may prefer the company of older children or adults (Parker & Mills, 1996).

Charisma is often not evenly distributed in all intellectual spheres. A charismatic pupil can excel in solving logical problems but has a low linguistic performance. Another may be able to read and write at a very high level, but to have difficulties in math. It is likely that there are different types of talent with their own unique characteristics, as there are different types of developmental delay (Singer et al., 2016).

Charisma can be obvious in people at different developmental points. While early development (i.e. speech or reading at a very young age) is usually associated with charisma, it is not a determining factor (Kitsantas et al., 2017). Finally, both the genetic
material of the child and the environment within which the child grows, contribute to the
development of charisma.

References


[56] Stathopoulou, et all Mobile assessment procedures for mental health and literacy skills in education. International Journal of Interactive Mobile Technologies, 12(3), 21-37, 2018,


[106] I Chaidi, A Drigas 2022 Digital games & special education Technium Social Sciences Journal 34, 214-236


I Chaidi, A Drigas 2022 Emotional intelligence and autism spectrum disorder Technium Social Sciences Journal 35 (1), 126–151

I Chaidi, A Drigas 2022 Emotional intelligence and learning, and the role of ICTs Technium Social Sciences Journal 35 (1), 56–78

C Papoutsi, A Drigas, C Skianis 2022 Serious Games for Emotional Intelligence’s Skills Development for Inner Balance and Quality of Life-A Literature Review Retos: nuevas tendencias en educación física, deporte y recreación 46, 199-208

I Chaidi, A Drigas 2022 Social and Emotional Skills of children with ASD: Assessment with Emotional Comprehension Test (TEC) in a Greek context and the role of ICTs Technium Social Sciences Journal 33, 146-163

V Bamicha, A Drigas 2022 ToM & ASD: The interconnection of Theory of Mind with the social-emotional, cognitive development of children with Autism Spectrum Disorder. The use of ICTs as an alternative, Technium Social Sciences Journal 33, 42-72


A Drigas, M Karyotaki Online and other ICT-based Assessment Tools for Problem-solving Skills International Journal of Emerging Technologies in Learning (Online) 11 (4), 56

A Drigas, E Mitsea, C Skianis Intermittent Oxygen Fasting and Digital Technologies: from Antistress and Hormones Regulation to Wellbeing, Bliss and Higher Mental States BioChemMed 3 (2), 55-73

A Sideraki, A Drigas Artificial Intelligence (AI) in Autism Technium Social Sciences Journal 26, 262-277

E Mitsea, A Drigas, C Skianis Cutting-Edge Technologies in Breathwork for Learning Disabilities in Special Education Technium Social Sciences Journal 34, 136-157

A Drigas, E Mitsea, C Skianis Subliminal Training Techniques for Cognitive, Emotional and Behavioural Balance. The role of Emerging Technologies Technium Social Sciences Journal 33, 164-186

P Anagnostopoulou, A Drigas 2020 ICTs, Mindfulness and Emotional Intelligence in Inter-National Educational Policies. Int. J. Recent Contributions Eng. Sci. IT 8 (4), 48-60

A Stathopoulou, M Liouni, Y Salapata, A Drigas 2022 Emotional difficulties and post-traumatic stress disorder symptoms in children refugees & the role of ICTs: A case study in northern Greece borders Technium Social Sciences Journal 31, 213-227

C Gatsakou, N Bardis, A Drigas 2022 The Theatre of Mind: An educational tool of teaching Emotional Intelligence via ICTs and distant learning Technium Social Sciences Journal 31, 241-255

V Galitskaya, A Drigas 2020 A Neurological View for Mathematical Learning Disabilities Neurology and Neurobiology 2 (4), 1-4