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DWRI INTELLIGENCE AND OTHER INTELLIGENCES

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ABSTRACT

This article presents what has been called DWRI intelligence (Developement of Wide Regions of Intellectual Interference), in Portuguese (Amplas regiões de interferência intelectual desenvolvidas) and determined intelligence, the tests of intelligence present only strands, focusing on rationality, interpretation and logical thinking to solve issues, thus quantifying the ability and potentializing the subject's intelligence. However, the potential for intelligence significantly interferes with the formation of a person's personality through a genetic and hereditary origin, whereas cognitive intelligence only occurs through synapses, brain plasticity, environmental and social factors, among others, and the intelligentsia of determined and broad knowledge, and does not define a person's DWIR intelligence, even when testing intelligence.

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INTRODUCTION

This study aims to demonstrate that IQ (Quociente de Inteligência), a value obtained through tests developed to evaluate verbal, numerical, logical and spatial capabilities, alone, does not define DWRI (Developement of Wide Regions of Intellectual Interference) intelligence. Especially the tests that define only the IQ of an individual as logical reasoning. The person who has a high IQ is not necessarily an individual of DWRI intelligence and may have only certain intelligences. The subject may have a very well defined logic, but not cognition, which is also an intelligence. There is logic and "types of logic". The bearer of a high IQ, may have logic for calculations, evaluated in IQ test, and not have other types of logic. There are variables, nuances in the logic itself as there are in cognition and other types of intelligences. The logical, rational intelligence, as well as other intelligences are like a periodic tithing. Almost infinite. An abstract example would be to imagine a logic that could be calculated in degrees 0.1, 0.2, 0.3 and so on. The logic in the IQ test can be practiced before the test and improved through the use of cognition to determine the logic of the logical intelligence test achieving better results. This study - which uses a bibliographic method of research, in addition to interview and analysis, believes in a DWRI and determined intelligence, where IQ intelligence is the starting point and can help the individual to develop other intelligences. The idea here is to demonstrate a new concept of intelligence, as many have high IQs, but do not have a compact cognitive development. And there are those who do not have such a high IQ and are able to improve the cognition, based on the will, experience and the acquired knowledge itself. When an individual has brain development with a genetic influence that determines a high IQ without external or internal influences that impair cognition, he is able to develop all types of intelligence according to his interest and life experience, thus completing a global intelligence or DWRI with variables of periodic tithing verified here, as an abstract example, according to the nuances of interference in life. If there are interferences, whether in autism, brain damage, pregnancy, etc., any detail in the formation process, then the intelligence is determined. For the discussion of the subject, it is convenient to define in a scientific way the concepts of intellect, intelligence, cognition, and to highlight what the types of intelligence are. This scientific paper will also present what some individuals with high IQs, gifted or above gifted, think about the subject of intelligence. What they think about DWRI intelligence, and not just that related to IQ.

RESULTS AND DISCUSSIONS

Intelligence is not intellect: Intelligence has a priori, the genetics involved. It is different from an intellectual, because the intellect is the knowledge in a certain subject(s) improved. An example is in politics, it is common to hear during elections that most intellectuals are left-wing and define them as intelligent. I am mistaken. We must evaluate the details through logic. In reality many left-wing intellectuals, be they a sociologist or a history teacher, are not necessarily intelligent. But rather, intellectuals or specialists, because they have improved their studies and have much knowledge in a certain area. In the author's view, a person with DWRI intelligence could not be a political idealist, but would necessarily have to have an open mind as an intellectual strategy, it is a common characteristic of individuals with DWRI intelligence to be observers, questioners, reflectives, and to have developed humility as a hallmark of the personality, as a manipulative method of personality itself. One example is in ancient Greece where the intelligentsia came together to think together and question together and created a culture in which this was necessary - sophism. Even those who did not have the same intellectual standard were forced to be observers and questioners through the culture of privilege of a small group. Political parties had mistakes and successes, statistically, through rational logic, it would not make sense to be bound to a party side, with those characteristics that define DWRI intelligence, unless it is a party politician.

Intelligence x cognition: Intelligence is a power of reasoning, understanding and learning that allows one to know reality in different degrees and levels of depth. It is the ability to manipulate one's own consciousness, creativity, perception, discernment, filter and understanding of one's own intelligence. The individual, when born with DWRI intelligence, still needs to work his intelligence to improve his own abilities. The fact that he has large areas of intellectual interference developed does not mean that he does not need to promote and foster cognition in order to better use it. The concept of intelligence does not determine the type of life of the individual, and the need to use intelligence for better well-being and mental health prevails. It is very difficult to define the potency of intelligence because of the types and variables that influence an IQ test, also because this test is limited to numerical, verbal, logical, and special intelligence, obtaining other types of intelligence through other tests, but without defined numerical accounting. There are different types of intelligence: logical, linguistic, spatial, musical, bodily, interpersonal, intrapersonal, naturalistic intelligence. For example:

- Logical Intelligence - solves logical and mathematical problems. Ability to use deductive reasoning and calculations.
  Location: Drill Center
- Linguistic intelligence - use of words in an affective oral or written manner, ease of learning languages, writing, reading.
  Localization: part of the brain called Drill Center
- Spatial intelligence - the ability to think in three dimensions, to project images with the mind modifying them, decoding them or producing them.
  Location: Right hemisphere of the brain.
- Musical intelligence - sensitivity in perceiving sounds, music, transforming them, defining and interpreting them.
  Location: Right hemisphere.
- Body intelligence - uses the body to express ideas and feelings. Ability to use the hands and motor coordination.
  Location: left hemisphere.
- Interpersonal Intelligence - ability to feel empathy with people. Understanding of facial expressions, voice, gestures, posture, etc.
  Localization: Frontal Lobes.
- Intrapersonal Intelligence - construction of own evaluation with accuracy. Reflection, self-understanding and self-esteem.
  Localization: frontal lobes.
- Naturalistic Intelligence - classify, differentiate and use the environment. Observation, reflection and consideration about the environment.
  Location: occipital lobe.

An individual with DWRI intelligence presents all the above well-defined types of intelligence and the order of power and effectiveness of each type, varies according to their own choices, preferences, culture and experiences. In contrast, cognition, which from Latin has as its origin the word "cognoscere" which means to know, includes the entire mental process that can be described as an experience of knowledge (perception, recognition, conception, and reasoning), which is distinguished from an experience of feeling or will. But for a lay person to know the difference between Intelligence and Cognition is not very easy. It is important to emphasize that there are several cognitive aspects, where the various cognitive functions are performed, such as learning or decisions. When we talk about both learning and decisions, it is important to highlight that cognition is stimulated by synapses, being related to memory, attention, concentration among other factors. All this functionality only occurs in the formation of the cognitive through external influences, causing it to develop some factors such as: identification of something, experiences, taste, smell. Perception is also part of the cognitive process, when the emotional field is activated, there is the release of the neurotransmitter of dopamine (compensation), causing the individual to memorize more, working the neuronal plasticity. The release of the pleasure neurotransmitter has as consequence the triggering of attention. The subject begins to awaken interest in something and better assimilate the content absorbed by it, because within this moved interest, there is an emotional intelligence involved in cognition. Thinking is another cognitive factor, it is through it that one can create critical reasons such as doubting, creating, observing, among other functions, because for the formation of this complex network, it is necessary to have cognitive stimuli so that this process occurs in a structured manner. In addition, memory is also the fruit of cognition, where through external means it is possible to send information to the engrams that will make the connection enabling the flow of memory.

Intelligence and Logic: For a DWRI intelligence, it is primordial to have a logical intelligence. Logic is a science of reasoning, for its idea is linked to the process of correct and incorrect reasoning that depends on the structure of the arguments involved in it. "Thus it is possible to conclude that logic studies the forms or structures of thought, that is, its purpose is to study and establish properties of the formal relationships between propositions. (COPI, 1978, p. 21).

According to Mortari (2001):

> Logic does not try to say how people reason (even because they "reason wrong" many times), but it is primarily interested in the question of whether those things we know or believe in - the starting point of the process - in fact constitute a good reason to accept the conclusion reached, that is, whether the conclusion is a consequence of what we know. Or, in other words, if the conclusion is adequately justified in view of the information available, if the conclusion can be affirmed from the information one has (MORTARI, 2001, p. 06).

For Chauí (2002):

> (...) the Analysts [of Aristotle] seek the elements that constitute the structure of thought and language, their modes of operation and relationship. (...) logic is a discipline that provides the ideal laws or rules or norms of thought and the way of applying them in research and demonstration of truth. In this sense, it is a normative discipline, for it gives the norms to well conduct thought in the search for truth (CHAUÍ, 2002, p. 357).

Intelligence and IQ testing

> It is possible to affirm that affective relationships even within the womb of the mother can contribute to the more progressive or

retarded development of the person. An example of logical intelligence that has synapses as motivation can be found in the classroom when a motivated student is able to pay more attention. With the repetition of tasks he ends up developing a cognition together with logical intelligence.

One of the first approaches applied to the scientific study of intelligence was psychometry, a perspective that emphasizes intellectual performance and the general or specific factors that make it up. It assumes that intelligence is an innate, fixed, abstract, and general mental ability whose degree of intensity (be it global or of isolated aspects) can be measured through performance in tests, the latter being composed of an ordered series of tasks or problems to be solved by an individual. This is the basic paradigm of this approach (CATTELL, 1972; GALTON, 1869; SPEARMAN, 1904, 1923, 1930)

Galton (1869) firmly believed that intelligence was a fixed and hereditary capacity underlying all cognitive activities. Spearman (1927, p. 133) says that "Just as in physics, all mental activity consists of continuously varying manifestations of a single thing that can be called energy. All this mental manifestation in search of intellectual development requires a certain dose of energy that all people possess within themselves, but which is diversified regardless of the medium in which it is inserted, a medium that will create another condition for the development of intelligence. Thus, two types of intelligences can be highlighted, being logical or just cognitive.

Until the mid-1960s, the existence of intelligence tests and their use in various instances were not questioned. On the contrary, the tests were seen as one of the greatest discoveries of Psychology, an emblematic sign of its success as a science. Psychologists would be the holders of instruments, almost supernatural, that allowed access to the "secrets of the human mind," placing these scholars in an extremely privileged position. In fact, it was considered that such instruments provided the psychologist with the gift of acquiring so much knowledge about the human intellect that it would be justifiable to delegate to him the power to amplify or limit the educational, social and work opportunities of his subjects. It was a very comfortable situation, since the tests were easy to use and extremely versatile. This explains their wide use in schools, in the armed forces, in government agencies and even in commerce and industry. (ROAZZI; SOUZA, 2002, s.p.).

Today these certainties that were attributed only to scientists in the 1960s have been deconstructed by science itself, because the criticisms refer to the abilities evaluated in intelligence tests. After all, the cognitive functions measured in these tests were arbitrarily determined as essential and general based on a very specific type of society. (ROAZZI; SOUZA, 2002) We must also remember that in the middle of the 20th century, the IQ test was performed verbally or by handling objects, as Roazzi and Souza (2002) observe:

An example of this occurs in the Wechsler intelligence test, where mental abilities are evaluated verbally, through questions such as: "How many wings does a bird have? (general knowledge), "What would you do if you saw a boy forget his book when he left his place in a restaurant?" (practical information and ability to make social judgments) and "What do an hour and a week look like?" (logical-abstract abilities). Non-verbal abilities are evaluated by tasks such as: assembly of objects (ability to build a concrete form from its components), arrangement and completion of figures (visual memory) and duplication of graphic patterns through small cubes ability to analyze the whole in its component parts). (ROAZZI; SOUZA, 2002, s.p)

Another important issue is that children often do not feel motivated to respond to the items of a given task. This is extremely relevant when considering the relationship that exists between intelligence and motivation, illustrated by the fact that intellectual processes become more sharpened when it becomes necessary to solve problems that arise between the individual and the objective that he or she proposes to achieve (ROAZZI; DIAS, 1994).

For Roazzi (2002):

Evidence points in the direction of the importance of the environment to which the individual is adapted in the development of intelligence stem, above all, from studies involving variations or similarities in genes, such as studies with twins and families. In fact, if a given ability has a high degree of heredity, that is, if the variability in a population is associated with great genetic variability, one can expect relative similarity between the abilities of different individuals if they share relevant genes. Consequently, genetically identical individuals, such as univitelized twins, should be very similar; whereas parents and children, brothers and sisters, who share approximately half of their genes, should be very similar; finally, the level of similarity should be attenuated as the level of kinship decreases. Basic studies in this perspective have actually found a positive association between genetic similarities and IQ levels. (ROAZZI, 2002, n.)

A research conducted by King's College London, led by Dr. Sylvane Desrivières, after analyzing the cortex of the human brain (the grayest location in our entire brain), the scientists came to the conclusion that the thickness of this region is connected to some mechanisms such as emotion, attention, memory and also intelligence, as the studies show. According to the Medicalxpress (2014) website, an international team of scientists, led by King's, analyzed DNA samples and magnetic resonance tests of 1,583 healthy 14-year-old adolescents. The adolescents also underwent a series of tests to determine their verbal and nonverbal intelligence.

We wanted to discover how structural differences in the brain relate to differences in intellectual capacity. The genetic variation we identified is linked to synaptic plasticity - how neurons communicate. This can help us understand what happens at a neuronal level in certain forms of intellectual disabilities, where the ability of neurons to communicate effectively is somehow compromised. Figure 01: Grey matter and intelligence linked by a gene (DESRIVIÈRES, 2014, s.p).

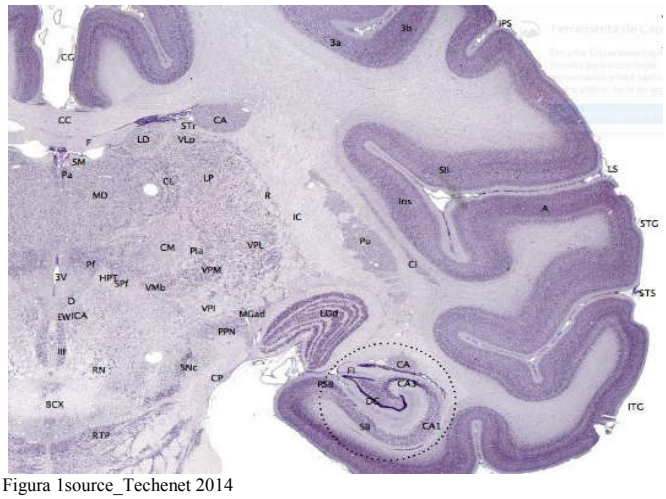

Figura 1source_Techenet 2014

Figure 1. Grey matter and intelligence linked by a gene

It is important to emphasize that intelligence is influenced by many genetic and environmental factors. The gene we identified explains only a small proportion of the differences in intellectual capacity, so it is by no means a 'gene for intelligence' (DESRIVIÈRES, 2014). Also the site of Medicalxpress (2014) researchers have analyzed more than 54,000 genetic variants possibly involved in brain development. They found that, on average, adolescents with a particular gene variant had a thinner cortex in the left brain hemisphere, mainly in the frontal and temporal lobes, and performed worse in tests of intellectual capacity. The genetic variation affects the expression of the NPTN gene, which

encodes a protein that acts in the neuronal synapses and, therefore, affects the communication of the brain cells. To confirm their findings, the researchers studied the NPTN gene in brain cells of rats and humans. The researchers discovered that the NPTN gene had a different activity in the left and right hemispheres of the brain, which can make the left hemisphere more sensitive to the effects of NPTN mutations. Their findings suggest that some differences in intellectual abilities may result from decreased function of the NPTN gene in specific regions of the left hemisphere of the brain. The genetic variation identified in this study represents only an estimated 0.5% of the total variation in intelligence. However, the results may have important implications for the understanding of the biological mechanisms underlying several psychiatric disorders, such as schizophrenia, autism, where impaired cognitive ability is a fundamental characteristic of the disorder. The scientific site HGNC (HUGO genne nomenclature committe, 2014), shows the importance and function of NPTN, this gene encodes a type I transmembrane protein belonging to the superfamily Ig. The protein is believed to be involved in cell-cell interactions or cell-substrate interactions. Alternative splicing results in multiple variants of transcription.

> Through these analyses it is possible to understand that intelligence not only has an environmental influence, but also genetics in its formation, but it is necessary to remember that the formation of intelligence does not occurThe similarities and discrepancies between intelligence and creativity were investigated, as well as the possible impacts of gender and educational series on their development. The sample comprised 172 students (91 women, 81 men), with ages ranging from 7 to 17 years. The evaluation of intelligence was done through the Brazilian version of the Woodcock-Johnson III Battery, while creativity was evaluated by Torrance's Creative Thinking Tests. The results obtained by MANOVA and ANOVA demonstrated significant effects from school grade to intelligence and figurative creativity, and from sex to verbal creativity. There were no significant correlations between intelligence and creativity, according to measurements in intelligence tests. The rotational factor analysis of Varimax pointed out a distinction between intelligence, verbal and figurative creativity, indicating the independence between these constructs. (WECHSLER et al 2010, s.p.)

Still on intelligence, Furnham et al (2008), Kaufman et al (2008), and Silvia (2008), say that "Intelligence and creativity are highly studied phenomena, although to this day there is a great deal of divergence as to their definitions". (FURNHAM et al, 2008; KAUFMAN et al, 2008; SILVIA, 2008).

Gardner (1999), McGrew (2009), Sternberg (1999), Sternberg & Kaufman (2001) and Vincent, Decker, & Munford (2002) state that:

> Intelligence has been understood under different aspects, covering not only the stages involved in cognitive development, the nature and dimensionality of the skills that compose it, but also the socio-cultural aspects that influence it (GARDNER, 1999; MCGREW, 2009; STERNBERG, 1999; STERNBERG, KAUFMAN, 2001; VINCENT, DECKER, MUNFORD, 2002)

And Torrance & Safter (1999), Torre & Violant (2006) and Wechsler (2009) highlight that:

> Creativity is discussed from different perspectives, proving to be a phenomenon of multiple aspects, in which cognitive elements, personality characteristics, as well as family, educational and social variables interact (TORRANCE, SAFTER, 1999; TORRE, VIOLANT, 2006; WECHSLER, 2009) equally in cognitive formation.

The testing methodology according to Wechsler et al (2010), was composed of 172 students (91 women and 81 men), students from private (49.4%) and public (50.6%) schools, located in five cities in the interior of São Paulo state. These students attended from the 1st grade of elementary school through the 3rd grade of high school. The age groups involved were classified as follows: 7-9 years (36); 10-12 years (36); 13-15 years (56); 16-18 years (43). The schools in each city were selected according to the convenience criteria of the local researcher, existing around 32 children per city.

IQ tests: There is more than one type of IQ test. One of them is the Woodcock-Johnson III Tests of Cognitive Abilities-WJ-III (WOODCOCK et al., 2001). This battery is composed of 10 subtests that evaluate different intellectual abilities. The tests used were: 1) Understanding and knowledge (Gc- language and crystallized intelligence), composed of the sub-tests of Vocabulary, Synonyms, Antonyms and Analogies; 2) Visual auditory learning (Glr- memory of associations); 3) Spatial relations (Gv- viso-spatial thinking); 4) Combination of sounds (Ga- analysis and synthesis of sounds); 5) Concept formation (Gf- logical reasoning or fluid intelligence); 6) Visual combinations (G- speed of processing); 7) Inverted numbers (Gsm- working memory or short term); 8) Incomplete words (Ga- auditory memory); 9) Memory of auditory work (Glr- memory and divided attention); and 10) Postponed visual learning (Glr- associative memory or recovery). The performance of these subtests can be analyzed in isolation, since they represent different abilities involved in intelligence, or by means of a total score, insofar as it represents a general factor in the CHC model. The validity of the Brazilian version of WJ-III has been proven in several studies. The suitability of the Brazilian items created for this battery was demonstrated by the Item Response Theory, thus indicating the need for a version adapted for the verbal part of this battery (WECHSLER, VENDRAMINI, & SCHELINI; 2007; WECHSLER et al., in press). The validity of the battery criteria was observed in the research of Mol and Wechsler (2008), when it was found that groups of children with and without learning difficulties could be identified by their performance in the Battery. In turn, the convergent validity of the Brazilian version was proven by observing high correlations between its results and those obtained in the Wechsler Intelligence Scale for Children - WISC-III (CHIODI & WECHSLER, 2009). Another known test is Torrance's Test of Creative Thinking, figurative and verbal versions, form A (TORRANCE, 1966, 1990). Torrance's creative thinking test, in its figurative version, is composed of three activities containing scribbles to be completed. In the verbal version there are six activities, for which questions, causes, consequences or ideas for product improvement are requested. These two tests are corrected according to characteristics or cognitive and emotional indicators related to creativity, identified in research related to the creative person, in international and national studies (TORRANCE & SAFTER, 1999; WECHSLER, 2004a, 2004b).

The cognitive indicators, related to divergent thinking, are the following: Fluency (ability to produce large number of ideas), Flexibility (proposals of different forms or points of view), Elaboration (detailing or enrichment of ideas to make them more vivid), and Originality (unusual solutions or out of standards). The emotional indicators that can be identified in creativity are: Emotion (expression of feelings), Fantasy (representation of imaginary worlds), Movement (dynamics in actions), Uncommon Perspective (vision under different perspectives), Internal Perspective (representation of parts of something hidden); Use of Contexts (concerns with the environment); Combination (synthesis of ideas), Extension of Limits (breaking restrictions); Expressive Titles (go beyond the description). These 13 indicators, cognitive and emotional, can be found in figurative creativity (TORRANCE et al., 1990). In verbal creativity, eight indicators can be found: Fluency, Flexibility, Elaboration, Originality, Emotion, Fantasy, Uncommon Perspective and Analogies/Metaphors (WECHSLER, 2006). A more complete measure for creativity evaluation can be obtained from the composition of the characteristics, thus having a Creative Index I (composed by Fluency, Flexibility, Originality and Elaboration) and a Creative Index II (adding all the cognitive and emotional characteristics). As a result, the relationships between intelligence and creativity found in this study were significant only for the general sample. However, this fact was not confirmed when the groups were subdivided according to the results above or below the median in the

WJ, there being low and non-significant correlations between intelligence and creativity. This fact confirms the results of other studies (for example, DAVIS & BELCHER, 1999; KIM, 2006, RUNCO, 2007) that reported the existence of low or even negative correlations between these constructs. It is clear, therefore, that creativity can be found at any level of intelligence, due to its weak relationship with it. The significant relationship between the verbal and figurative creative indexes found confirms the convergent validity of these constructs, indicating that creativity can be present in several areas, as already pointed out by Wechsler (2004a, 2004b). The test demonstrates in practice that broad intelligence does not have a direct connection with creativity, being it a cognitive ability, a child for example plays with his imagination most of the time, it cannot be said that he has broad intelligence, a priori he exercises his cognitive function.

We highlight Sternberg (2016), which relates the ability to solve problems with the creative capacity in an interconnected system. Glăveanu (2009) defines creativity as a socio-cultural act that originates and develops through a dynamic and systemic model, dependent on time, place, the use of materials impregnated with culture and the otherness involved, which enables the emergence of the new. While broad intelligence is biological interference, cognitive is formed through cultural and social models.

> I will define creativity from a cultural point of view as a complex socio-cultural-psychological process that, through the work with 'culturally-impregnated' materials within an intersubjective space, leads to the generation of artifacts that are assessed as new and meaningful by one or more people or communities at a given time. (GLĂVEANU, 2010, p. 11)

Still Glăveanu (2009) says that:

> Creative acts involve the adoption and coordination of two or more different perspectives on the same issue or problem and, as a result, expand our possibilities of action in relation to that specific issue or problem. (GLĂVEANU, 2015, p. 06)

The cognitive intelligence located in the frontal cortex has the ability to expand in the midst of the synapses that surround it, creating problems and amplifying solutions in a random manner, in more diverse modes, differentiating from the paleolimbic field that its actions do not act in the uncertainties.

Human Intelligence

Human intelligence is subdivided into three dimensions:

- Affective/emotional;
- Volition/will;
- Cognitive/ cognition;

The first two are directly linked with feelings and desires, both activate the third intelligence itself, has an abstract relationship, receiving and generating knowledge, according to Sobral (2013) reflects that:

> The cognitive dimension, cognition - which is the act or process of knowing, which involves the capacities of attention, concentration, imagination, moral judgment (judgment), memory, thought and language, in addition to the diverse forms of reasoning and perception, and the various types of intelligence. (SOBRAL, 2013, p. 03)

Intelligence is not a factor dissociated from the personality of the subject, therefore, it is also related to heredity, temperament and character, which is assimilated from the social environment. (SOBRAL, 2013). As the author points out, intelligence is part of the construction of the human being, deriving from heredity as well, but the person's cognitive intellect will only be completely formed after the age of 21, and it can be fully utilized. When a person develops cognitive intelligence completely, possessing or not a DWRI intelligence and works the plasticity of that place, he becomes intellectual within a certain subject in which he dominates, but even so, there is no balance with DWRI intelligence.

> Thus, the healthy and balanced evolution of intelligence is closely related to the progress of thought, which in turn accompanies the anatomo-physiological, motor, and psychological development of the historical subject: from the concrete to the abstract; from the imaginary (magical, finalist, artificialist, animist, and syncretic) to the real; from analysis to synthesis; from the emotional (syncretic) to the rational (categorical) (FIORELLI; MANGINI, 2009).

DWRI intelligence works broadly, but subdivisions produce distinct mechanisms within their functions, composing the intellect that is part of DWRI intelligence.

> The consciousness and its "states" occur in consonance with the intelligence, but are distinct from it. In this sense, it is possible to believe that it is the capacity of the subject to use the intelligence that will allow the consciousness to apprehend the meaning of perceived "things", how they are constituted, the differences between them, and the purposes of each one in the world (MAROT, 2013)

Each individual is born with his or her diverse intellectual characteristic, this intelligence forms the personality of the subject, that is, a person may be born with logical intelligence, but not develop cognition in the same way.

> [...] intelligence goes beyond results obtained by students, expressed in notes, indices and factors. On the contrary, it is related to aspects proper to the subject and to elements of the environment, manifesting itself in a singular way in the formal and informal learning situations experienced by him in his daily life. Intelligence is also articulated with the human being's capacity to know and understand the reality that surrounds him, in order to dominate it and transform it. It is, therefore, an open and changeable process. (NUNES, SILVEIRA 2011, p. 149)

Nevertheless, there must be a consensus between the potential to be developed and the stimulation received. These two aspects must be connected in order to lead the subject to develop in whatever area is chosen. (SOBRAL, 2013, p. 06).

> Environmental factors are determining agents for the viability and channeling of a person's innate potential. Environmental factors such as overpopulation, noise, disorganization (emotional and social), tension, constant changes, nutritional problems, family disorders directly affect the person's ability to develop his or her intelligence potential. The social environment plays a very important role in the process of stimulation and activation of intelligence, in order to transform it into abilities. (SOBRAL, 2013, p. 06)

It is understood in this context that DWRI intelligence has a direct connection with heredity and with external factors, developing skills that when worked on, gives the subject a greater perception of how to act with their various brain areas. Alfred Binet (1857-1911), attempted to measure intelligence through psychological tests, elaborating, in 1904, the first "intelligence test" and establishing the relationship between chronological age and mental age. Such tests "were intended to verify the progress of children with intellectual disabilities" (BOCK; FURTADO; TEIXEIRA, 2002, p. 181).

> The index designed to evaluate the individual's degree of intelligence is obtained by dividing his mental age by chronological age. In general, the result is multiplied by 100 to avoid fractions. [...] The Intellectual Quotient (IQ) represents the relative position of the individual, compared to persons of his age, in view of intellectual development. (SOBRAL, 2013, p. 07)

Through these attempts to detect people's intelligence, they have had others, but the reality is that the tests do not actually evaluate

intelligence as a whole but part of it, and when these regions are evaluated, the numbers are added up making comparative analyses creating rankings of the most intelligent.

For Santos (2008)

> It covers all areas of knowledge and the use of these skills contributes in an original way to humanity; taking into account that every genius is gifted, but not every gifted one is genius". The genius is the one who not only possesses high abilities, over gifted or relevant talent, but also uses them in a creative, genial and productive way, generating and producing works of social and historical-cultural importance. (SANTOS, 2008, p. 53)

Genius occurs in very rare cases, but in more frequent contexts one finds people with an above-average intelligence, who are considered to possess: high skills - above-average skills in one or more domains: intellectual, affective and social relationships, creative productions, sports and psychomotor. (OUROFINO; GUIMARÃES, 2007 apud SÃO PAULO, 2008, p. 15). Some individuals present a super endowment, as they have remarkable performance and high potentiality in any of the following aspects, isolated or combined: general intellectual capacity, specific academic aptitude, creative or productive thinking, leadership capacity, special talent for the arts and psychomotor capacity. (BRAZIL, 2007). Other individuals also have the talent, because this person performs with a high degree of quality, achieving recognized success, something that represents an expression of a characteristic that society recognizes and appreciates, or performs at a higher level of quality in some area that society values. (GUENTHER, 2000 apud ALMEIDA, 2009). It is important to understand that intelligence test evaluations are standardized, where the objective is focused in a single perspective on what generates singular results, becoming something superficial.

In addition, there are scholars who approach this concept of general and cognitive intelligence as "multiple intelligence.

Gardner (1994) identified seven basic and differentiated types of intelligence. Thus, he follows the definition of the seven types of Multiple Intelligences, which usually appear combined with different intensity in all human beings:

1) musical - is the ability to deal with music, as do those who play a certain musical instrument and those who compose it" (VERGARA, 2005, p. 195).
2) corporal-cinesthetic - is the ability to use one's own body to express an emotion (as in dance), play a game (as in sports) or create a new product (as in planning an invention) is evidence of the cognitive aspects of body use" (GARDNER, 1995 apud VERGARA, 2005, p. 196).
3) logical-mathematical or numerical - is common in engineers, physicists and mathematicians, or in people who deal well with the manipulation of numbers and mathematical calculations;
4) linguistic or verbal comprehension - can be identified in those who take pleasure in reading and writing, and also understand and use words and nuances of meaning well. Professionally, writers, lawyers, politicians etc. stand out;
5) spatial or visual - is necessary for the visual arts and the solution of spatial problems. (VERGARA, 2005, p. 198).
6) interpersonal (social) - is identified in leaders, teachers and psychotherapists, and also in other professionals who have ease to relate with others. Understand, communicate well and convince people, such as administrators, lawyers and salespeople. (GARDNER 1995 apud VERGARA, 2005, p. 198).
7) intrapersonal - is fundamental for people who have good capacity to perceive and understand themselves well, and also introspetion, reflection, self-evaluation and self-acceptance, as philosophers, psychologists and religious. (GARDNER, 1995 apud VERGARA, 2005, p. 198).

Multiple intelligence is a theory formulated by Gardner in 1994, linking greater intelligence with other areas of the brain, where it has an effective participation within these subjectivities.

> It is the access to the feeling of one's own life, to the range of one's own emotions, to the ability to discriminate these emotions and eventually label and use them as a way to understand and guide one's own behavior". In this conception, it is possible to understand that "interpersonal intelligence allows us to understand others and work with them; intrapersonal intelligence allows us to understand ourselves and work with us" (GARDNER, 1995 apud VERGARA, 2005, p. 199)

Today, studies conducted in neuroscience point out that this correlation is not so true, because there is a general intelligence where each area is developed by itself according to the plasticity coming from the practices.

> The center for each mental function would increase in size as a result of use, identical to the increase in the size of a muscle by exercise This increase in the size of a brain region would cause a distortion in the skull. Thus Gall, 200 years ago, pioneered the notion that different mental functions are actually located in different parts of the brain - brain localization, but he was wrong in how this is achieved by the brain. (KANDEL; SCHWARTZ; JESSELL, 1997).

Broca (1861) described the situation of a patient where he only spoke loose words, but understood everything he heard, had no kind of problem in his strings, but could not pronounce the grammar.

> He was able to enunciate single words and sing a melody without difficulty, but he couldn't speak grammatically or in complete sentences, nor could he express his thoughts in writing. The examination of this patient's brain, after his death, revealed a lesion in the posterior region of the left frontal lobe - a region that today is called Broca's area and based on studies in eight patients with similar pictures, concluded that this region of the human brain was specifically responsible for the control of speech motor expression. (KANDEL; SCHWARTZ; JESSELL, 1997).

With this result, scientists began to seek more knowledge about the various intelligences that exist in the human being, through neuronal electrical impulses.

> Paul Broca's work stimulated the search for the cortical locations of other specific behavioral functions. In 1870, in Germany, physiologist Gustav Fritsch and psychiatrist Eduard Hitzig electrified the scientific community with their discovery that the electrical stimulation of certain regions of the dog's brain produced characteristic movements of the limbs. This discovery led neuroanatomists to a more detailed analysis of the cerebral cortex and its cellular organization. Thus, in humans, the right hand, commonly used for writing and movements requiring skills, is controlled by the same left hemisphere that controls speech and in most people, the left hemisphere is considered dominant (KANDEL; SCHWARTZ; JESSELL, 1997)

The left hemisphere can only be dominant when the plasticity is greater than the right side, when both are worked in a progressive and efficient way the two enter in the process of equilibrium with the cognitive intelligence located in the frontal cortex.

> Wernicke proposed that only the most basic mental functions, those related to simple perceptual and motor activities, would be located in single cortical areas, and that the most complex intellectual functions would result from the interconnections between several functional regions. By placing the principle of localization of functions within the connective framework, Wernicke admitted that the various components of the same behavior would be processed in distinct brain regions. (MOURÃO; JUNIOR; OLIVEIRA; FARIA, 2017, p. 14)

Today, it is possible to establish where and when specific cognitive processes occur in the brain. This information can allow determining the order in which different parts of the brain become active when someone is performing a task, as well as allowing whether two tasks

involve the same parts of the brain in the same way or whether there are considerable differences. (EYSENCK; KEANE, 2007). With the evolution of science in the 90's and the transmission of brain images, neuroscientists were able to better understand the regions where intelligence develops, general or abstract. According to Gazzaniga, Ivry and Mangun (2006), the difference between the capacities of newborns and adults is visible. Newborns do not walk, do not hold objects, do not speak or understand when we talk to them. These differences can be elucidated in two ways: newborns may have all the capacities of adults, but they have not yet obtained their abilities through experience; and, in contrast, newborns may differ from adults in neural and/or cognitive capacities.

> The first hypothesis puts the newborn as possessing a fully formed neural circuit, waiting for the measurements and signals from the environment for development to occur. The latter proposes that newborns do not yet have neural and cognitive structures to act as an adult and that this development encompasses radical and qualitative changes. This view has been widely accepted by development theories based on both neural and psychological evidence. (MOURÃO; JUNIOR; OLIVEIRA; FARIA, 2017, p. 14)

This lack of prior understanding does not mean the person's lack of intelligence, but rather a greater development of plasticity, since we are born with an intelligence, already initiated in fertilization.

> The idea that human life begins with fertilization involving the participation of germ cells, male and female, dates from the 19th century. Before that and for thousands of years, the great majority of people believed that life began at birth and that the explanation for the fact that children are more like their parents than other members of the group to which they belonged was based on heredity (nature: biological nature) or the environment (nurture: creation). (PINE, 2007)

The overcoming of the dualistic nature-nurture question, which occurred in the 19th century, resulted in the recognition of the participation of both hereditary and environmental factors in determining the physical and behavioral characteristics of the human being, initiating the interactionist paradigm. Thus, in relation to a given characteristic, for example, intelligence, it is admitted that it results from the interaction of inherited genes with the environment (intra and extrauterine) in which the child develops. (PINE TREE, 1996). Therefore, the intelligence tested by IQ, only logical, is something superficial, not giving the information by concrete, only analyzing a specific area of the brain, having as objective the understanding of the content itself and not taking other factors as the imaginary for example, as the term synaptic plasticity points out, refers to the adaptive responses of the nervous system to perceived stimuli. The majority of the systems in the brain are plastic, that is, they are modified with experience, which means that the synapses involved are altered by environmental stimuli captured by some mode of sensory perception.

Personality of people with dwri intelligence (Over Gifted): There are some elements that distinguish a gifted person of high IQ and determined intelligence from a gifted person of high IQ and DWRI intelligence. Usually they are people who present themselves for their precociousness, with advanced characteristics for their age, showing abilities much earlier than would be expected. We can give the example of mastery of a certain motor activity or learn to read and write with great ease, given their chronological age. In the case of adults, there is a difference in language and social behavior, with no tolerance for dialogues without absorption of knowledge or that add up to something of interest to themselves. Life experience delimits sociality and tolerance. Another interesting aspect that is often observed is the dedicated way in which it faces each task to which it is proposed. There is always a need to dominate, so it creates a devotion to the subject or issue and will deepen as much as possible in that subject, area or competence. Usually it will go beyond what is expected for your age and this fact leads you to start working alone to achieve your goals. There is a need to chart your own path, at your own pace and time. This kind of attitude leads you to create an autonomy and to prefer to study or work alone. Gifted people will excel in some area of knowledge or human ability, they will show high competence. They won't have to be people with multiple skills, that is, to be globally good at everything, unless there is a motivation for other types of knowledge. It is enough to have a command over one, but in such a way that it stands out. An extremely good and exceptional person in some subject. However, a varied cultivation of interests is observed in order to increase the mastery of their skills. Once again the subjects that will hold your attention will be out of step with your chronological age. The child will be interested in more adult subjects, such as politics or finance, or even climate change or violence. Their interests are divergent from what is expected and demonstrate themselves with great intensity. Because their interests are outside of what would be normal for their age, children of high abilities tend to socialize with older people to discuss opinions and have access to more information. On the other hand, there may sometimes be a need to socialize with younger children, as they are not subject to criticism and attacks that may be suffered by older and more demanding ones. There is a great ease in learning the general principles of specific subjects and the speed of learning is quite fast. This ease in retaining and learning is often associated with a remarkable power of synthesis and conclusion. Finally, still within this theme, they have great ease in proposing ideas about the subjects in question. Another characteristic to take into account is the high degree of observation and perception, having the capacity to understand and understand the nuances. Within their competences and areas of study, they have a clinical and very critical look.

This type of person has a need to constantly put himself/herself to the test and there is a preference for strategy games or other types of challenges. There is a need to be surprised and tested and tends to escape what is easy and repetitive. Another relevant characteristic is their sense of humor. It is a very refined and developed humor that is often only shared by its peers who share the same intellectual characteristics. These characteristics tend to create divergences in the group due to a lack of collective understanding.As far as memory is concerned, they have a high level, both short and long term. Often the semantic, textual memory is the one that stands out the most. There is a tendency for the taste of reading, and this reading is refined. There is a predilection for more complex authors. The reading becomes a vehicle of extreme importance in the access to information. There are also those who are interested in documentary videos or who bring knowledge of interest or means that bring in the image a familiarization due to the development of spatial intelligence that is related to images.

The traditional characteristics in these cases are:

Curiosity - high degree of creativity - ease and speed in learning

→ Ease of concentration;
→ Autonomy;
→ Interest in different areas and topics;
→ Initiative and leadership;
→ Advanced vocabulary and wealth of verbal expression;
→ Ability to consider other people's points of view and realize the discrepancy between ideas;
→ Ease to interact with older children or adults;
→ Interest in books;
→ Creation of personal means to solve problems.

Mastery of motor skills, textual, musical, dedication to the task, "fury" to master a subject, deepening in the area, independence and autonomy.

In the adult phase:

- Dissatisfaction for not meeting their own expectations - very demanding people who collide with reality very structured and not very stimulating. They are usually

labeled as hyperactive, different, non-conformist, which many do not understand, challenging.

- Emotional sensitivity - high values with a high degree of sense of justice. Frustration with reality that does not fit the schemes themselves. Striving to hide the feeling. They feel hurt easily, deceived, and live in an emotional ferris wheel. They change from effusiveness to sadness in a short time.
- They need to connect with other people - contrary to what many people think, they lack social skills in need of interaction. Desire for emotional connection, intellectual, emotional intention. They need passion, interaction, especially with intellectual people. There is intensity as well as determined goals.

Intelligence and Personality: Research conducted by the University of Minas Gerais with Psychology students, analyzed the relationship between intelligence and personality, to what extent one can influence the other.

> The first studies on the association between intelligence and personality used measurements of personality based on the three major factors or model Psychoticism, Extroversion, and Neuroticism (PEN) proposed by Eysenck (1970). More recently, the studies have focused on the Five Great Factors (CGF) model, currently considered the best structural model for describing personality (Di Fabio & Busoni, 2007; Hutz et al., 1998; Moutafi, Furnham & Crump, 2006).

The Five Great Factors pointed out by the author were applied by the University, where the main objective was to analyze the respective personalities, in which the results were presented as scores.

> The sample was composed of 266 participants (mean age=21.82 years and female gender=77.8 %). All were university students of the Psychology course of a federal educational institution, living in the metropolitan region of Belo Horizonte. This study is part of a larger project, which was duly submitted to and approved by the Research Ethics Committee of the Federal University of Minas Gerais (483/08 COEP-UFMG). The data are collected semiannually for didactic purposes and all participants have signed a consent form and authorization for use of the data in research. (SANTOS; NASCIMENTO, 2012, p.4)

The students passed three tests of intelligence and personality as SANTOS reminds us; NASCIMENTO (2012). Consists of a measure of general intelligence for adolescents and adults. It consists of 60 items presented in the form of non-verbal, predominantly abstract and geometric stimuli. The items are organized in five series. The examinee's task is to choose among the alternatives that best complete the matrix. The test can be applied without time limit. Its quotation contemplates the sum of hits, converting the result into a percentile scale. (SANTOS;NASCIMENTO, 2012, p. 5). At the end of the tests, the results are evaluated among the personalities of people who are extroverted and introverted, but it is important to emphasize that these evaluations had as characteristics:

- Verbal Intelligence Test;
- Reasoning Test Battery;
- Personality Factorial Inventory.

The research demonstrated the results through the scores, showing self-confidence, autonomy, and better sociability, the most random questions, are solved with more skill by these individuals, show high intelligence, they are more extroverted, already introverted people are more reflective can work with more abstract questions, at the end of the tests it was understood that the personality can interfere with people's intelligence, even if the intelligence is hereditary and the personality changes over the years.

FINAL CONSIDERATIONS

Currently, intelligence testing is intended to present people with their respective IQs, but how far do these tests define DWRI intelligence? We know that there are two types of intelligence: the logical and the cognitive, and these two work in consonance, but at the same time they are distinct realities. DWRI intelligence, as we have seen in this article, is hereditary, already appearing in embryonic formation, and it is responsible for the imaginary and understanding of the reality that surrounds us, being responsible for the formation of the individual's personality and the condition of his intelligence. DWRI intelligence has a direct relationship with cognitive intelligence that needs plasticity for motor development, learning, perception, among others. The author of this article was based on published research and experiments, as well as his own interviews and analysis. Member of Mensa, association of people with high IQ, presents an IQ evaluated in 99 percentile by the WAIS III test and 99 percentile by the APM - Raven test, also evaluated in tests of cognitive intelligence without presenting any variable and with high cognitive capacity. In research and analysis, 10 members of Mensa were interviewed, among them 9 Brazilians and 1 Italian. All were unanimous in agreeing or considering DWRI intelligence coherent. The author participated in Facebook groups that call themselves gifted groups, but it was not taken into account since it cannot be proven that the participants have a high IQ. It was also based on analysis in the participation of the restricted Facebook group of Mensa Brasil. The following are the observations of the analyses in only interviewees who proved to have a high IQ and in Mensa's Facebook group, an association of members evaluated through the logical IQ test:

Negative" characteristics such as narcissism, egocentrism, lack of cognitive perception, low capacity of manipulation and perception under manipulation, low cognitive capacity in the perception of future possibilities, lack of empathy, linguistic, body, interpersonal and intrapersonal deficiency can be found in people who presented high IQ. Characteristics such as creativity, logical perception and especially mathematics are well elaborated in all the people interviewed and analyzed. Other personalities check with what is described in this article with variables that are revealed by personality interference. The difference in the interviewees and analysis defined that people with DWRI intelligence do not usually present the negative characteristics above in the same intensity or almost zero in these behaviors, they tend to be humble due to obvious questions regarding the positive return and manipulation of themselves and the other, as well as narcissistic and egocentric control. The high capacity of the use of logical reasoning and control of other regions of the brain, especially emotion, configures a future perception and manipulates the present in a cautious and intentional way. The rationality and interpretation of oneself defines it as mind and body for one's own vision and for the external vision. There is also the capacity of emotional control to quickly divert focus without being carried away by emotion or even manipulating one's own emotion so that it brings results by the sensitivity of the other.

Ability to use the prefrontal lobe, the consciousness, to control all other regions depending on the intensity of the problem or trauma that is relative to personality and genetics. Socioeconomic, cultural-regional factors interfere with the individual's personality, but it is analyzed in people with high IQ with all the highly developed brain regions, personality similarities with more careful behaviors and a high level of knowledge and wisdom in the way they deal with people. Attacks such as cyberbullying, virtual aggression, provocation, rejection, comparison, sarcasm, which are not infrequent in groups of people with high IQ, were mostly evaluated as being committed by people with IQ below 98 percentile. The author concluded that individuals with IQs above the 98/99 percentile with DWRI intelligence would have better jobs and would not devote time to social networking, especially in Facebook groups, which were also found to be effective in intelligence types, obtaining differences only in what suggests choice and lifestyle, as well as professional issues. It is also concluded that individuals with high IQ, can train logical IQ tests and obtain better performance on tests with training. For

example, a 95/96 percentile IQ person with a lot of practice could achieve a 98 percentile result on an IQ test, making the test not so reliable as the only intelligence assessor. A DWRI intelligence assessment cannot only be through logical IQ tests, such as processing speed, operational memory, perceptual organization, verbal comprehension as well as some others, having to be analyzed the cognition and cognitive evolutionary capacity as well as evaluating the nuances of possibilities of factors that interfere in the evolution of brain regions. An individual without study, for example, may have lower evaluations in some tests, but not necessarily cease to be intelligent and cannot be taken into account knowledge acquired through study, but the ability to acquire knowledge based on cognitive. To evaluate DWRI intelligence, all 8 types of intelligence cited here must be tested and, even if it has not developed a particular intelligence due to factors such as experience, will, and life history, it tends to show ease. For example, if there is no music in the routine or musical taste, a musical test will reveal ease in perception, sensitivity and motor coordination since people with DWRI intelligence can develop any type of intelligence in degree of power according to training and experience. It should also be analyzed the behavior, habits, personality that defines you as a carrier of DWRI intelligence. The type of evaluation in this case will be determined in another article with a range defined to the specific case. Individuals with IQs above 99 percentile, with DWRI intelligence have a greater chance of professional success not only for logical intelligence, but for the cognitive ability to socialize and reinforce social ramifications that will interfere with progress, career, or academic environment.

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