

Graphic of intelligence

Abstract

In this article we present a specific Graphic of Operation of Human Intelligence developed by Mettrau. This study investigates the intelligence in adults considered to have High Abilities/Giftedness since childhood. These social actors participated in a specific school program designed to help them deal with this special condition in their childhood. According to the literature, it is necessary the maintenance, consistency and persistence of the traits associated to High Abilities/Giftedness condition after childhood. Mettrau's Graphic of Human Intelligence was used in this study to investigate whether these people have a different way of life, if they feel fulfilled and satisfied with the achievements they have obtained in life so far and if their plans for the future show specific traits of High Abilities/Giftedness. Our results suggest that these participants appreciate the formation they had in their school programs and that they have conscientiously used their skills since childhood.

Keywords: high, abilities, giftedness, adults, intelligence, graphic

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Introduction

The study of the operation of human intelligence based on three different aspects, cognition, creation and emotion, is important because the inability to recognize and identify one's cognitive, emotional and creative possibilities may waste one's intelligence and full potential. The idea of recording this Academic Research, and Teaching background was originated in 1999 through the Project Follow-up I (1999-2002) which was supported by Faperj and allowed us to learn more about the functioning of intelligence and the topic of High Abilities by means of data obtained at that time. Later, in 2012, our attention was directed to our Post-Doc work with the purpose of consolidating this field of knowledge carrying out a groundbreaking research to follow the living story of the traits and characteristics of people with high abilities who attended special Development Programs. An important part of this study is "Adults with High Abilities/Exceptional Giftedness, research on cognitive, creative and emotional aspects", developed through many years of study by this researcher and also its follow-up. This research, in which the participants were individuals who attended Educational Development Programs, aimed at remembering their life experiences, their memories and their participation in those experiences. This paper organizes data indicating how the participants who attended Development Programs as children or teenagers live their adulthood now. Another important aspect is the possibility of disclosing and sharing this data, practically unknown in Brazilian research about high abilities in adults, besides the methodological and theoretical development about this issue and the possibility of enhancing new paradigms on this matter. The general purpose, therefore, was to follow the lifeline of former students with high abilities who participated in Development Projects; and also to check essential aspects of the relation of Mettrau's Graphic of Intelligence with the cognitive area, the creative area and the emotional area, which are known as areas of expression of Human Intelligence in action. In this perspective, the specific objectives were to check if there are similarities in traits of giftedness in these two age groups: children or teenagers and adults; and to investigate some of these traits in two periods: during their participation in the Project and at the present time, in their adulthood.

The questions guiding the second part of the study were:

1. Does the Graphic of Intelligence Operation^{1,2} facilitate the understanding of the intelligence operation of each person?

2. Does this these Graphic help the perception of intelligence operation of other people?
3. Is the participant able to notice each of these three modalities, emotional, cognitive and creative separately but working concomitantly?
4. What's the importance of the Graphic to enhance the participants' perception about the operation of general intelligence? Regarding the collection and analysis procedure, participants' responses and the materials collected by their letters and emails were analyzed according to the principles of Bardin The results were organized in tables and graphs in terms of frequency and percentage. Textual material regarding issues of the concept of intelligence, characteristic and application of intelligence, organized into a single document called the text corpus was also used with Alceste software:
 - a) It was used a questionnaire specially designed for this study, with open and closed questions, divided into two parts. The first part is about issues related to the study of intelligence and the maintenance or not of traces of High Abilities/Giftedness. The second part of the questionnaire is about the Graphic of Human Intelligence Operation.^{1,2} The guiding questions of the first part of the questionnaire were:
 - b) What traits related to high skills have these people maintained so far?
 - c) What are their main professional and personal achievements?
 - d) What memories do they keep from the Development Programs they attended?
 - e) How do these people recognize their intelligence ability?

In this new study, the understanding of the functioning of intelligence in adults is enhanced with Mettrau's Graphic of Intelligence.^{1,2} This author has studied children with high abilities for over 30 years. According to the literature it is necessary the maintenance, consistency and persistence¹ of these traits (High Abilities/Giftedness) during the lifetime of these people. This Graphic has been used to investigate whether these people have a different way of life, if they feel fulfilled and satisfied with the achievements they have obtained in their life and if their plans for the future show that these specific traits have remained unaltered during their life, from childhood and/or adolescence until their adulthood.

We live in a society full of information, knowledge and skills. New studies on communication are produced almost every day, and this great amount of information is sometimes difficult to be properly understood. There are many ways to learn, to teach and to understand the cognitive process, and this understanding has changed in different times in History. This article presents a specific Graphic of Human Intelligence,^{1,2} which is also based on many contributions given by PhD colleagues and students of Social Psychology of the author of the mentioned Graphic. These contributions were of great cognitive, emotional and creative value. Many people made it possible to create, develop and design this Graphic. Those were special people that do not have a professional background in Psychology and Education; they are students and family, among others. These people needed to understand how their children's intelligence works, in first place. This has been a source of inspiration during these years of development and application of this graphic and of our continuous study on human intelligence to make it clear not only to experts, scholars, researchers and academics, but also to the majority of people.

We are partners of the World Council for Gifted and Talented Children (WCGTC); the Iberoamerican Federation for Gifted and Talented (FICOMUNDYT) with headquarters in Spain; The European Council for High Ability (ECHA); the Brazilian Council for Giftedness (ConBraSD), so we have had many opportunities to follow domestic and international studies about this topic, having several papers published in Brazil and abroad. Being scholars in this field of study, we value intelligence in the social field, including interpersonal and intrapersonal interactions³ and we define intelligence in terms of a general factor (Factor G) Pellegrino.³ We also consider that, to understand intelligence, it is necessary to apprehend the nature of human cognition and the nature of the system of values within which the knowledge about cognition operates. The social and academic relevance of this project is linked to the fact that people need to have new and up-to-date knowledge about their own intelligence operation to understand it and to improve it and to free themselves from many social myths and fantasies about this issue, which sometimes may hinder their own intelligence, as well as their capacity, their emotional bonds with other people. The topic of human intelligence is still debated today as it has been over the years, in its multiple aspects and different interpretations. Therefore it is considered an interdisciplinary and multidisciplinary topic. In terms of the importance and applicability of this study, we highlight that the national and international literature regarding the research on adults with high skills is still insufficient. Another reason for that is the fact that Universities, in general, and schools, in particular, do not have sufficient ongoing research studies on adults with high skills.

Questions

We are Intelligent: what does it mean to be intelligent?

Graphic of Operation of Human Intelligence

Creation, Knowledge and Feeling

Further study on intelligent behavior facilitates the process of inclusion of people, because it favors the expansion of this field of study and knowledge to understand that we are all intelligent and we need new ways to teach and to learn about this. This is the importance of this issue for families, teachers, and other education and social psychology professionals and to our own sense of citizenship, understood here as an achievement, because people can only develop relationships and interaction within the social group in which they live. In view of the

latest contributions in this field the Triarchic Theory of Intelligence⁴ allows us to have the perception and see the relationship between our inner world (interpersonal); our experiences (what we do and have during our lives) and our external world, that is far more than our experiences, since it contains all our knowledge and learning ability. These three aspects indicated by Sternberg⁴ correspond, respectively, to the use of analytical, creative and practical skills in most people. With the ability of analytical thinking, we solve the problems we already know, by means of strategies that deal with the elements of a problem (making comparisons and analysis); with creative thinking we solve new types of problems (inventing and planning) and with practical thinking we solve situations by applying what we already know (practicing new understanding). Describing the Intelligence Operation, Mettrau presents the Graphic (Figure 1) that has been developed and tested since 2000 and which has been improved to the present day. Its basic point is that the intelligence operation includes the cognitive area, the creative area and the emotional area. "Creation; understanding and knowing what one creates (cognition) and feeling something about it (emotion).^{1,2} These different aspects of intelligence begin, develop and take place in the context of the social group; therefore, humans do not exist, do not evolve and do not develop out of their social group.

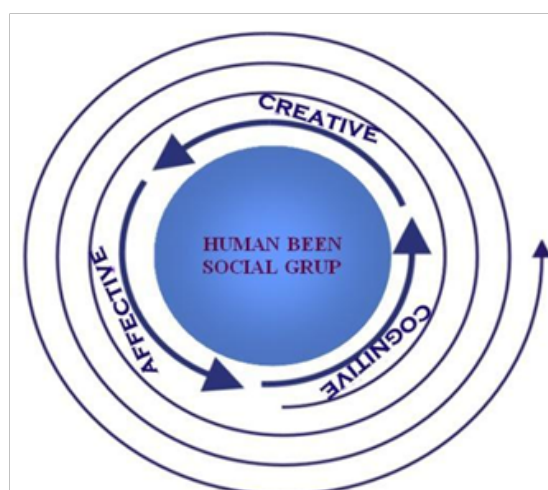


Figure 1 Graphic of Human Intelligence.^{1,2}

The functioning of human intelligence is a dynamic process, with no starting or ending place, as shown in the Graphic in spiral form and that includes three distinct but inseparable aspects: creation, cognition, and emotion. This Graphic shows the intelligence operation through a circular and continuous motion, indicating that human intelligence has no hierarchy in its aspects: creative, emotional and cognitive, and that there are no major or minor fields of its expression. These dimensions have a non-stop kind operation in all phases of human lives and all of them are important for the intelligence operation. Creating, knowing and feeling are different aspects of human intelligence, because humans can express their intelligence in various ways and forms, they are able to create (creation), understand and know what they create (cognition) and feel something about what they create (emotion).^{1,2} Contemporary studies on human intelligence indicate different ways of demonstrating and using intelligence, because man belongs to a particular species and has a biological programming that has been transforming over time during thousands of years. When people feel trapped in some kind of trouble or face a difficult situation, they may

fail to demonstrate and to make a full use of their intelligence ability, either regarding cognition, creation or emotion. Our theory is that these three different aspects described above begin and develop in the context of social groups which means that humans do not exist, do not evolve and develop outside their social groups.

Creativity and intelligence

Our theoretical perspective on creativity is that it is also a dimension of human intelligence as understood by Ostrower,⁵ Lubart⁶ and others. Contemporary studies made by Sternberg & Lubart^{7,8,9} on creativity indicate that there may be a convergence of the individual and the environmental factors so that creativity may exist and according to the type of confluence of these factors there may be people more or less creative.¹⁰ Part of the multiple factors in the environmental context may offer people many different experiences. As an internal factor, there is motivation, an important factor that determines the level of interest, abstraction and time invested in an idea or situation. The variable factors of personality and intellectual operation of each person, i. e., the way one learns, the way one takes daily decisions, at school or at work and the way one chooses strategies to solve daily problems. Personal organization, as well as willingness to take risks, flexibility of thinking and confidence in one's personal pursuit of creativity is some of the actual factors. It is also important to know in advance the materials and techniques that will define the quality of the creative output. We are not born with our creativity fully developed; we have to develop it throughout our lives.

When scholars examine the intellectual process of creative people they may observe and detect any problem, because that is the moment to detect faults or mistakes; to define and select strategies in the solution of problems; that is what Sternberg¹⁰ defines as "*Cultivating the big picture*." It is also expected that creative people show a taste for novelty and productivity because creativity refers to something that is, at the same time original and valuable. Sometimes the creative way of working called *insight* occurs and corresponds to an apparent and sudden understanding of the nature of something. It might be highlighted that this sudden understanding does not actually happen suddenly, because the new concept had already been incubated (one the stages of creativity) earlier in the mind. It only seems to be "discovered or noticed for the first time." In fact, it is an unexpected discovery that happens after a meticulous and extensive work directed at the focus of attention. The poet, physicist and Brazilian scientist, Marcelo Gleiser, tells us that: "The creative process is not so different in science and arts".¹¹

Presently we know more about how to produce material goods. However, we know very little about how to produce ideas, symbols and information, and that is why the accumulated knowledge and discoveries that result from our theoretical inventions, scientific discoveries and artistic creations, still leaves us very intrigued.¹² Still talking about creativity, we can say that bureaucrats are afraid of innovation and creative people are afraid of immobility, but creative people will prevail because our post-industrial society is fed on the inventions produced by these people.¹² Among some scholars, Sternberg is the one who makes the question: how can we have a single definition that unifies the works of Leonardo Da Vinci and Marie Curie; Vincent Van Gogh and Isaac Newton; Albert Einstein and Wolfgang Mozart? All these people have something in common: the discovery of a theory; a chemical substance; a process or procedure; a story; a symphony and other things that are simultaneously original and valuable.¹³ Other authors agree that creative people show a

creative productivity. Several scholars see these issues of creativity in different ways and through different theories. Further on we will present the postulates of personality, motivation. Barron¹⁴ remarks the importance of personal style and receptivity or openness through other ways of seeing: intuition and readiness towards an opportunity and curiosity towards complexity. Creative people make various associations through great attention and eagerness for discovery.¹³ In this group of researchers, Hennessey,¹⁵ investigate the importance of motivation. Other researchers, like Csikszentmihalyi,¹⁶ believe that it is not possible to study creativity separating and isolating it from the creative people and their work from the social and historical context in which their actions are performed. Thus, what we define as creative is never the result of a single, isolated action. That author highlights the importance of factors such as the *domain* and the *field*. Simonton^{17,18} states that creativity is beyond the social, intellectual and cultural context.

In 1994, some authors researched multiple internal and external factors that must be combined to enhance creative productivity, other researchers pointed out the importance of individual creation. Simonton¹⁸ cited by Sternberg,⁸ said: "Archimedes was not the first to see a bathtub overflow; nor was Newton the first to see an apple falling and Watt the first to hear the whistle of steam from a kettle. What turned these observations into discoveries was the *significance* of these things to them. That author also said that one of the characteristics of those master minds is the great intelligence which facilitates the genius, allowing us to see how the dimension of creativity is as part of intelligence, as shown on the Graphic presented by Mettrau. Sternberg & Lubart,^{7,8,9} indicate that multiple factors, individual and environmental, must converge to produce creativity. Thus, creative people need a proper ambiance, as well as specific knowledge, motivation, personality variables and intellectual process (cognition) to foster this development and to be able to create valuable things that are appreciated by their social group.

Affection, cognition and intelligence

According to Barros de Oliveira,¹⁹ the term *affectivity* contains various aspects and it is a difficult concept to be defined. It can be said that cognition and emotion rise simultaneously or that they generate each other. Thinking about affectivity, words like emotion and feeling come to our minds. From these multiple convergences¹⁹ it is possible to deduce that the cognitive constructions are the cause of the acceleration or delay of the cognitive development, but the emotional-cognitive mechanisms always remain inseparable, though distinct, as well as the creativity mechanisms. Some other authors also study emotional cognition. Simon,²⁰ after studying the various phases of the mental process of learning and its diverse interactions within this group defined emotions, feelings and behavior through action, besides the multiple motivations that work simultaneously, which results in a conceptual problem about this theme. In a brief talk about this topic, we remember Piaget²¹ who had a great interest, which he showed in some of his studies, on the relation between intelligence and affection, indicating, however, that it was necessary to learn more about emotion. In fact, it is noticeable that, more empirical data lack on the nature and the development of affection, and consequently, about the integration of a global emotional-cognitive system.

In education, Psychology, especially the Psychology of Development, has provided major contribution to structuring and intervention, as well as creation of new methods of teaching and learning. The most significant contributions in this area were made

by classical authors like Piaget, Vygotsky & Wallon.²¹⁻²³ Zajonc & Lazarus,²⁴ strongly defend other points of view. Lazarus²⁴ defended the preponderance of emotion over cognition. Wallon,²³ one of the most important names of the Psychology of Development, considered emotion the first form of understanding. Agreeing with these authors, we also think that we must think of human intelligence through a dynamic approach and a complex mechanism with various aspects, according to different theories and contexts, always susceptible to new changes, due to current and future studies. Nowadays it is important to highlight the study of Neurosciences, which has contributed with much research that promoted a great advance in the study of emotions. We now know that emotion precedes, in some cases, cognition and the memory of past emotions. In addition, another important ability is the solution of problems. Emotions often indicate the direction of thoughts, facilitating the cognitive process.²⁵

Studying this matter, we value intelligence in the social field, including inter-and intrapersonal interactions⁸ and define intelligence as a general factor (Factor G) as mentioned previously. Pellegrino, another researcher, says that in order to understand intelligence, we need to understand the nature of human cognition as well as the nature of the system of value in which the knowledge of cognition itself operates.⁸ The emotional life, as the intellectual life, corresponds to a continuous adaptation and these adaptations are 'parallel and interdependent', which means that feelings show the interest and values of the actions which structure is intelligence itself.¹⁹ Thus, the cognitive functions contain various aspects, such as perception, learning, knowledge, thought, concept, judgment, reasoning, problem solving, etc. Emotion and motivation are the energy factors of behavior without which it is impossible to work well and with pleasure. Researchers must continuously and progressively study intelligence in relation to the prevalence and dimension of the social field, which, in theory can be described as a complex concept, characterized by the dynamic relations between the various elements that contribute to its expression.²⁵ "To have accumulated knowledge and intuition about something and to dare having the social aspect as the main reference." "They 'change' from a creative moment to an emotional moment, or their interactivity. A musician, a writer, I believe there is a kind of 'symbiosis' between creation and emotion during the creative process of producing a new song or a text. Also when a chemist or an engineer feel the same during their creative process, discovering an element or an idea for a gadget (in this case, cognitive and emotional). Everyday actions, and less interesting tasks, on the other hand, may trigger a connection between cognition and creation, but also have a negative interference (noise, pollution) from the emotional part in case one does not enjoy the task he's performing."

Intelligence

There are numerous ways to define intelligence in popular terms. One of the points of divergence found in ECUs about the problem of defining intelligence is that it is an innate attribute or an ability that can be developed. Intelligence can be considered innate and finished; on the other hand, it can be understood as a set of different characteristics and abilities that depend on the interaction with the environment. The participants in the survey understood the working of intelligence and interaction with the environment as shown below. "Yes. I believe that people are born with intelligence, but it needs to be molded through knowledge to be used better." (* Participant 18). "It's like a shortcut to the full use of intelligence and abilities that everyone

has." (* Participant 5). "Predisposition, one's potential to learn and apply it, highlighting a given trait, skill, aspect, etc." (* Participant 24). "Preponderantly, intelligence and emotional balance in dealing with one's own skills, balance in the development of various skills and areas of your own life. One may have an amazing mathematical skill without having a proper kind of intelligence. Intelligence is a mixture of several abilities, balanced by a steady and structured emotional axis." (* Participant 19) "I do not believe that there are 3 characteristics that can be applied to any intelligent person, because it depends on how intelligence is expressed." (* Participant 28)

After that, it is presented the institutional study where the school is considered as an area of "knowledge", suitable for the development of competencies and skills. This is indicated in the speech of the participant 25. "Yes. The training at school, focused on verbal and mathematical development is integrated to the repertoire of literary and philosophical knowledge. They are necessary for the practical application of intelligence." (* Participant 25) Without ignoring the important role of schools, some participants highlighted the existence of experiences and other ways of developing intelligence. Family, friends, work, and many other experiences contribute to the development of intelligence. "I believe it derives from character, family education, ethical values and life experience. Studies, from childhood to academic life, contribute a lot to our formation and the discovery of new knowledge." (* Participant 9) "No. I know some intelligent people who have studied little or nothing, I also know people with vast knowledge that employ it very poorly." (* Participant 9) "No. Studying is the best tool to improve the use of intelligence, but it does not originate a person's intelligence." (* Participant 20) "No. Not necessarily. Although I admit that school plays an important role in a student's formation and in the development of their potential intelligence, because it provides tools for the students to develop these potentials, intelligence is an innate characteristic of every human being." (* Participant 27) "No. I do not believe that, since many people, as my grandmother, for example, fail in traditional schools, but develop natural wisdom during their life." (* Participant 21)

Conclusion

This study shows how people with high skills that were researched think, respond and understand their overall intelligence operation, including cognitive, emotional and creative aspects, researched through questions on the maintenance of personal traits, based on the models of Triad Renzulli²⁶ & Mettrau Graphic.^{27,28} The answers to the Questionnaire, used and designed especially for this study, show very well and clearly the reality of the researched topics, that are difficult and complex, even for professional and experienced researchers as indicated by some researchers of this area. There are many ways of being intelligent (and not many different types of intelligence) and the capacities of people change and expand over time, according to Vygotsky.²² We consider important to think individually about the functioning of the intelligence of each person, making questions about what it means to be intelligent, highlighting the notion that intelligence is an ability to do things that we cherish and need.^{8,29} We also intended to encourage reflection on the consideration of different areas of human activities and that there are people with academic talent, and other talents, artistic, sports, etc. Finally, we remark that people should consider their own intelligence as a kind of *social equity* that should be well treated and improved throughout their life, in order to enrich human global knowledge and intelligence operation.³⁰

Regarding the Graphic, this study also helped to think more deeply about the following questions:

- a) Do you believe the existence of three continuous and non-hierarchical aspects of your intelligence operation?;
- b) Can you notice in yourself, each of these three aspects working separately but simultaneously?;
- c) This Graphic helps/encourages the perception of intelligence operation in any person?;
- d) If you answer yes, what is the importance of this Graphic to help/improve your perception about the operation of intelligence?;
- e) If you answer no, please give your opinion about it; and
- f) Would you be interested in expanding your level of knowledge on the aspects that indicate and influence how intelligence works (high skills, talent, creativity, intelligence)?

The operation of intelligence, as defined by Mettrau^{28,29} in this Graphic indicates this operation as a dynamic process, without a point of start or end and containing three major areas, briefly considered below:

Cognitive area: refers to the area of learning where people understand anything that is new. This area is specially used when it is necessary to combine old knowledge with new one to produce a chain of new knowledge.

Cognition

Creative area: refers to the act of creating something, in any field of knowledge, to actions or thoughts expressed by interesting questions about some particular topic or about more general ideas. This area is not necessarily demonstrated only in important occasions, such as competitions, Olympics, etc.

Emotional area: specifically refers to feeling emotions about many things, which broadens the interaction, integration and inclusion of people, ideas, situations, processes and phenomena globally.

When describing the three areas indicated above, Mettrau^{27,28} suggests that “creating, knowing and feeling are different types of expressions of the human intelligence, because a person may express his or her intelligence in different ways, because one is able to create (creation), realize and know what one creates (cognition) and feel emotions about it ... (emotion). “The super-talent is a psychological concept characterized by some common features and different combinations, such as: great or specific curiosity; many questions and abstract and philosophical questions, and witty and funny comments on many subjects (humor). People with high skills do not accept simple answers about facts, they are interested in the real logical causes of the facts, in its basis and consequences, and they easily understand the relations between things. In general, they relate to things in a way that allows them to discover new uses and satisfy their intense curiosity, but even so, they are not always the best students at school. Early on, many or some of them, discover the flaws of schools and do not care if they fail, as they think schools fail too. Some of them find that they learn best by touching and seeing, according to the proposal: “Learning How to Do”, one of the Four Pillars of the Education in the 21st Century³¹ and not only with more theoretical issues. Generally, the majority of schools deals with almost everything in their classrooms by using only books and speech, which are not challenging enough for this type of students, who love to discover and to overcome

difficulties and enjoy new discoveries, either in the academic field or in other fields of “doing and knowing”.³² Regarding the maintenance of traits of giftedness, it is noticeable, in their responses, the high percentage positively maintained and that, in addition to maintaining the same traits; they also expanded some other interrelated traits. Some limitations, such as the sample size, the difficulties caused by the accumulation of tasks that the group had to perform; the size of the instrument and the kind of topic treated, should be reconsidered. It is therefore suggested further research regarding this question.

Finally, we believe all of us and also these participants need a new knowledge about how our intelligence operates. I think we should use the studies about intelligence for attention and not for labeling, always aiming to favor a more complete development of all people and their emotional, creative and cognitive potential as indicated in the Graphic of Intelligence Operation.^{28,29} The questions that guided this study were predominantly answered positively, i.e., affirmatively, with examples and data from the participants’ lives, experienced as adults who retain traits of high abilities, as indicated by other researchers and specialists. It should also be taken into account the revision of the identification procedures with the inclusion of minority ethnic and social groups. Novaes³³ Mettrau, Rangel & Azevedo.³² It is also suggested the work with different services through some possible alternatives ranging from classroom work to programs related to more advanced degrees, Silverman³⁴ Galbraith & Delisle.³⁵ The twelve (12) most prominent characteristics found in people with high skills in different levels are described as: perfectionism; perceptiveness; need to understand; need for mental stimulation; need for precision and accuracy; sense of humor; sensitivity/empathy; intensity; perseverance, coexistence and authority. Virgolim.³⁶ It is also important to say that all these features can be recognized, to a great or less extent, in the answers given by the participants. The participants received Development Programs offered by the Specialized Team. For this reason, we found disturbing and interesting to ask the participants questions about their intelligence operation and that of other people (Graphic) and other questions about the relation between their childhood and their current moment in life, as adults. Based on the results obtained in this study, it is suggested that a special program should be offered to people with high skills in all degrees, since the study indicates that they appreciate and use conscientiously this type of service.

This special program could be offered to people with high and creative skills and also to other people, referring, for example, to a pedagogy of divergence, a type of learning made by the discovery and use of special education through multidisciplinary approach and through projects (individual and group) that use stimulating educational material, not necessarily costly. The various possibilities of coexistence between different methods, goals and theories finally result in a new look on Social Psychology. To deal with the transition of knowledge and creativity in the attitudes and thoughts it is important to expand and improve the pedagogic service. From an integrated viewpoint on human beings, we may highlight expressions that we define as intelligent, not forgetting that there are non-intellectual components in intelligence, though. This way, when we focus on the intellectual output of someone, we should not forget the influence of emotions and the environment in.⁸ The research and the service provided to people with high skills in Brazil is still very incipient, if compared to the policies and programs already in use in other countries such as Germany, Canada, Spain, Portugal, India, China and USA, among others. The actions and the improvement of Brazilian specific legislation have only begun to indicate a real appreciation of this issue.

However, the legal presuppositions already exist and they indicate, directly or indirectly, to the educational and social responsibility of organizing and systematizing actions and programs which mediate the academic and social lives of people with high skills.⁸ Only humans know and feel what they create. Thus, creativity is also a dimension of human intelligence, and we all have it, varying only the intensity levels of motivation for its use in each person. There is no emotional intelligence, but rather, emotion in intelligence and it is a well-known fact that many people fail to express or demonstrate their intelligence when they are blocked by problems or difficult situations.³⁷ Numerous and brilliant Brazilian citizens, alive or dead, have left great marks in particular fields that made them famous. Although all of them may have had other talents and skills besides those for which they became famous, those were more or less developed according to the opportunities that they were given by the environment and the historical moment in which they lived. Dealing with human beings requires an ethical, philosophical, sociological, psychological and socio-educational approach. We understand intelligence as Social Equity, that is, something that belongs to everyone and everyone should value and know well. After all, what is the importance of recognizing the talent of people with high skills? It is to prevent it from being lost, because we cannot and we must not waste anything, not to mention talent. Understanding intelligence as a Social Equity makes us responsible for the use and development of the intellectual potential of everyone, including our own. Despite the certainty that every person is unique and different, we should view humans through a broad viewpoint including their social, psychological and artistic aspect, because human intelligence is perhaps the most complex aspect of humans and only looking at it through its overall operation can we understand its many dimensions and different aspects. Moreover, the Graphic of operation presented here was designed as a part of a larger concept, which is the understanding that our intelligence should be seen and understood as a social equity which we all should care for and preserve to the maximum extent.

The knowledge in this field of study should be maximally expanded because human intelligence and talent are issues about which we all talk in informal conversations and that all of us possess. After all, how is talent understood and used in life, in school and in that school that life is?³⁸ The question of creativity also studied, is not only designed to primary schools (referring to the first years), but also to University and to the job market, and also to old age, when people can still be creative.⁸ Whether we like it or not, we are subjects in a social context and we are also subject to it. Therefore, we have to perform actions in many fields, specially in the notoriously inefficient educational field, that is both inadequate and insufficient qualitatively and quantitatively in Brazil nowadays. The current educational situation, in general, isn't good at all. Poets, thinkers, inventors, artists and scientists have demonstrated their intelligence as a mixture of several components that work in a given direction that can be either a product or a process: We believe in opportunity for everyone, we wish to redeem all education, not only that formal (school) but also that acquired through the various types of popular culture. Therefore we will write the Brazilian memoir together with all Brazilians, and especially those who show exceptional talent, because it exists in all races and social classes in many human fields.^{39,40} Human intelligence is perhaps the most complex aspect of humans beings. Only looking at it through its overall operation can we understand its many dimensions and its different types of expressions, whether or not related to the study of high abilities and also understand how difficult it is to measure and comprehend it.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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