

## When the Intellectual Potential is Concealed from Symptoms: A Case Report

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### Abstract

We report challenges and trajectory of symptoms observed during the therapeutic process of a child with speech and language impairment and high intellectual potential which, initially, was concealed both by the described impairment and from others developmental vulnerability areas (psychomotor, emotional regulation etc.). The child, although intelligent, did not adequately use his strategies in order to make them effective and functional to the relational exchange and his cognitive level. The evaluations, carried out in many years, not only allowed to follow the evolution of the disorder but also the emergence of different skills, thus identifying the asynchronous development. Finally, are illustrated the results obtained at the last assessment where all the areas appeared evolving, with a significant transition from not coherently used strategies to the expression of the child's high potential (from the Leiter-R nonverbal IQ score of 93 to the WISC-IV IQ score of 131).

**Keywords:** Intellectual potential; Heterogeneity; Psychopathological; Therapeutic

### Introduction

The concept of giftedness, as by now was widely clarified in the international literature, is multidimensional and involves characteristics that relate both to the cognitive and behavioral aspects of the personality. Already Renzulli [1] conceptualized the giftedness with the three-ring model, highlighting three main factors in these children: the above average ability, the creativity and the task commitment. Gagné differentiated giftedness stressing that it mainly is an expression of a natural talent [2]. The peculiar intellectual abilities of gifted children can easily create a disharmony in the overall development: the child could not keep up emotionally with his cognition and then he could not find an appropriate balance among intellectual, affective and motor aspects of his life. Gifted children, in fact, tend to be more active than other children and display higher energy level, whether physical, intellectual or emotional. Dabrowski [3] called this surplus of energy psychomotor overexcitability because it has to be discharged in action; sensual overexcitability referring to the fact that sensory experience tends to be of a much richer quality, detail and contrast; emotional overexcitability in the sense that they experience a wide and multifaceted range of emotions and feelings, both in intensity and in sensitivity; intellectual overexcitability with regard to the characteristic by which gifted children are most often identified, that is the ability and interest in solving problems. Overexcitability means that reality is experienced in a qualitatively different manner; it implies an intense aliveness, different from the norm. Gifted children perceive and process things in a surprisingly way, that is why they are often misunderstood [4]. Their excitement is viewed as excessive, their high energy as hyperactivity, their persistence as nagging, their questioning as undermining authority, their abundant imagination as not paying attention, their strong emotions and sensitivity as immaturity, and their creativity and self-directedness as oppositional tendency [5].

We can therefore define the development of these children as disharmonious, because there is a considerable heterogeneity between each area of development, as already defined by Silverman with the concept of asynchronous development which concerns the mismatch between cognitive, emotional, and physical development of gifted [6-8]. Actually, the scientific community agrees on the fact that intellectually gifted children present, in most cases, socio-emotional problems and/or academic difficulties, despite the rich potential that characterizes them. It is also demonstrated that the development of gifted children is strongly influenced by environmental conditions and educational

systems [9-12]. In the current scenario, gifted children often are not promptly recognized as such, so that they arrive to the clinician for psychopathological manifestations they structure on the existing disharmony that, when read only in a symptomatic sense, can create greater imbalances in the child. The combination of cognitive complexity and heightened intensity explicates the vulnerability of gifted children.

Through the story and the definition of the following clinical case we would emphasize the negativity of diagnosis and therapy that are exclusively focused on symptoms. This circumstance would evade the deep disease underlying the symptoms themselves, hyper specializing an expertise and increasing the psychopathologic risk in prognostic terms. The intellectual potential, already poorly supported by immature psychic tools and in any case not sufficient to orient it, it is no longer used in an adaptive way by the child and the risk, in addition to a psychic impairment, is the loss of the potential itself. What can happen, in fact, it is that the potential could be belied or expressed through the symptom so leading to the structuring of the disorder as the highest expression of the developmental asynchrony in a profile of individual and environmental vulnerability. The clinical effort that is to ascribe the symptom to these general aspects, not reducing it to a simple label, allows us both to evaluate the whole development avoiding to fragment it and to diagnose or strengthen only an aspect not allowing the underlying potential to emerge. The ultimate goal is not, therefore, only the compensation of the impairment, but the achievement of a better balance between the areas of functioning so that the potential can be expressed in its fullness from the intellectual point of view, but also by the developmental systems aimed to its containment. At the same time, a therapy that respects the development in all its aspects should be supported by an ongoing analysis of the assessment process in order to identify the compensation areas but also the vulnerability aspects. This helps to modulate the intervention so to direct the developmental asynchrony towards more harmonious forms. If these aspects are to be considered in the clinical

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setting, this is also true in education, since in school it is important to identify the potential and the possible emotional and relationship difficulties of these children, in order to support them in their growth. In this context and with this approach the early diagnosis acquires meaning, being respectful of the complexity of the development and of its interconnected systems.

## Case Report

The case following describes the clinical history of a child who, despite having arrived in consultation for a speech disorder, has not received a diagnostic assessment focused solely on his specific impairment. This comprehensive approach made it possible to define a whole path of growth and to redirect areas and methods of intervention. Francesco came in consultation to the Assessment Service of our Institute at the age of 3 years and 5 months, while attending his first year of kindergarten, accompanied by his parents who were worried for the slowdown in his linguistic competence. In our institute, the assessments are carried out by a multidisciplinary team composed of several experts-with at least ten years of experience in the assessment area- and take place through the anamnesis, the specialistic visits, and the administration of scales and tests in order to arrive to the appropriate diagnostic classification. The significant fact emerged during the anamnesis is the severe motor obstacle (impediment in walking) happened to the mother during the first months of her son's life. In the context of the initial consultation, no specific scale was administered to Francesco because he refused to cooperate to structured activities through avoidance behaviors or clear disengagement. The evaluation, in this case, relied on the observation with the method of play from which emerges:

- Adequate psychomotor organization
- Sentence structure consisting of two/three elements with good verbal initiative
- Severe phonetic-phonological impairment
- Unintelligible speech
- Intact language comprehension

Given an appropriate relational competence, we observed behaviors denoting poor emotional regulation, attentional dispersivity and lack of symbolic play. An expressive language disorder is then defined in a broader framework of difficulty in integration of stimuli and reference is made to a further complex assessment of all the developmental aspects to trace a more accurate picture of the child. At the same time a therapeutic intervention is planned so to encourage greater emotional regulation and facilitate the attention focus. This enabled, six months after the intake, a more structured assessment. The therapeutic intervention was conducted, in this first part, by a psychotherapist.

### First complex assessment, 4 years of age-II year of kindergarten

Data collected from the analysis of the various development areas attest linguistic competence unsuitable to chronological age. Specifically, the sentence structure is composed of two elements with poor use of the factors of speech. The phonetic-phonological impairment implies a severe disintegration of the word that makes the speech unintelligible. There is also hypo specialization of oral praxis. Finally, the comprehension of the language is good. Despite the awareness of the expressive difficulties, the child, in the exchange with the other, shows a sufficient investment of the verbal channel and good relational skills. The analysis of the psychomotor organization, through the specific observation of the psychomotor profile [13], highlights the following:

- Hand-eye coordination: Suitable to 4 years of age
- Dynamic organization: Suitable to 2 years of age
- Postural control: Suitable to 4 years of age
- Segmental control: Suitable to 3 years of age
- Perceptual organization: Suitable to 4 years of age
- Linguistic organization: Suitable to 2 years of age

At a qualitative reading, in its entirety, the development profile appears sufficiently in line with the age of the child, but shows disharmonious skills that are not attributable to a specific disorder. The quality of the movement and the pragmatic of the body in the surrounding space are poorly fluid; movements appear clumsy and not very harmonious, with difficulty in concentrating on the body axis. The cognitive organization is investigated using non-verbal test, in view of the linguistic deficits present. From the administration of the Leiter International Performance Scale-Revised<sup>1</sup> [14] emerges a fluid reasoning score of 71 and a short IQ score of 93. These findings confirm that the child is intelligent, but also that the use of his strategies is not always effective; the test is conducted with continuous need to re-focus his attention to contain the dispersivity of the child. In the analysis of the data, it is interesting to note that in the last subtest administered (Repeated Patterns: scaled score 4) the child gets a very low score, not for a specific difficulty, but for disinvestment of the attention and poor tolerance of frustration.

The therapeutic path that is planned as a result of the assessment (after 6 months from the intake), provided for the speech therapy to allow the proper structuring of the language and the verbal manipulation to enhance the cognitive and relational competence.

The speech therapy intervention, at this stage, had as its main objective the expansion of the vocabulary and sentence structure through language games in which the child was able to experience, in a meaningful communication with the operator, the need of enriching his expertise. In the sessions, we also worked at the sensory aspects related to oral praxis and their integration and organization (for example, playing with the breath, feeling the muscle contraction during the articulation of different phonemes, preparing movements for the execution of the speech with the visual reinforcement of the mirror and so on).

Next to a specific rehabilitation program, however, the child attended a psychotherapeutic group to support communication and emotional regulation areas. Emotional and behavioral difficulties most frequently described in the international literature are anxiety, low self-esteem, a tendency to perfectionism and social withdrawal, all events that belong <sup>1</sup>The Leiter International Performance Scale-Revised (Leiter-R) is an individually administered instrument designed to assess the cognitive functioning of children and adolescents ages 2 years, 0 months to 20 years, 11 months of age. The Leiter was revised in 1997. The Leiter-R was specifically developed for children and adolescents with communications disorders, cognitive delays, hearing impairments, traumatic brain injury, attention-deficit disorder and certain types of learning disabilities as well as other populations (e.g. autism spectrum disorders) for which traditional intelligence tests may not be appropriate or valid. In fact, it is a completely non-verbal scale and consists of two batteries: the first is the Visualization and Reasoning Battery (VR) which includes ten subtests, measuring non-verbal cognitive visuospatial and reasoning skills then generating Brief IQ (ages 2-20), Full Scale IQ (ages 2-20) and Fluid Reasoning Index (ages 2-20); the second, that is the attention and memory battery (AM), which also consists of ten subtests that enhance the interpretation of the global IQ score by providing valuable diagnostic indicators of speed and non-verbal memory. The two batteries can be administered together or separately. Both batteries include unique "growth" scores, which measure small, important improvement in the cognitive skills even of a child with significant cognitive disabilities. The Leiter-R also includes four social-emotional rating scales (Examiner, Parent, Self, and Teacher) that provide behavioral informations, so allowing a multi-dimensional observation of the examinee.

to the category of “internalized” problems [15] and Francesco seems to fully respond to these features. Four children homogeneous for age and type of impairment form the therapeutic group. The choice arises from the need to work on suprasegmental and anticipatory systems of the speech (rhythm, times and ways of communication; respect and pursuit of reciprocity in the exchange) without disregarding the emotional imbalance that interferes on future developments. After five additional months from the intake, the child carries out a speech assessment to measure the progress reported by his therapists. Please note that the diagnostic team is different by the team rehabilitation to encourage a greater objectivity of evaluation. This specific evaluation shows wide progress in language competences. Specifically, the oral praxis is very improved, although remains difficult in some more complex ones (lingual clack and vibration). The phonetic-phonological impairment is still present, but the intelligibility of speech is greatly improved. He sometimes continues to muffle the sound phonemes (/d/ /t/ /b/ /p/). The phoneme /r/ is omitted, poor articulated or replaced with /l/. At a phonologic level, the child tends to replace various phonemes with the phoneme /t/ (in particular /s/ /ʃ/ /z/). There are also simplifications of those terms that involve consonant clusters. The receptive capacity is intact, with a score of 110 obtained to the receptive vocabulary test [16] and a score of 86.4 obtained to the protocol 4 years of the linguistic comprehension test [17]. In the pragmatic and social aspects there is a structure of over-talkative, because the child begins to use the verbal channel-now that his competence appears to evolve-, in order to mislead the emotional experiences under stress and frustration. Some authors [18-20]. Highlighted particular narrative skills of gifted children compared to age, in the sense of a greater maturity in the narrative structure and a wider use of vocabulary. What happened to Francesco in the early years of his development? What did not allow him to express himself precisely in the area of such a great potential, so structuring the language delay? Does his recent over-talkative signal us something important? Is it only a defensive mode (that is, we are still in the symptomatic area) or is the child expressing a potential that previously was inaccessible (that is we are in the presence of an evolutionary path)? The therapy continues taking into account these questions trying to respect his possible evolution.

### Second complex assessment, 5.6 years of age-III year of kindergarten

Verbal skills positively develop and oral praxis are all acquired except for the lingual vibration. The child begins to compensate the phonetic-phonological impairment, so remaining just some simplification of consonant clusters and specific alterations (the phonemes /r/ /l/ / tʃ/ / dʒ/ /z/ /s/ /ʃ/). The sentence structure is complete but disharmonious because of the gradual compensation from the expressive impairment. Furthermore, it is during this assessment that more clearly emerges a mild disorganization of some basic skills. In fact, in the psychomotor organization, through the Vayer observation, we notice that no quantitative indicators appear descriptive of an associated disorder, but we qualitatively observe:

- High levels of motor activation
- Poor concentration both directed to him and to environment
- Difficulty to put himself in relation to his body axis

Neurologic examination did not reveal signs and/or specific disorders associated with the language difficulties, borne by motor function. In this phase, it was possible, for the good evolution of the speech impairment, to administer the WPPSI-III [21] in order to

investigate the cognitive strategies of the child. Below are the WPPSI-III quantitative indicators:

- The Verbal Comprehension Index has a composite score of 118 (High Average);
- The Performance Index has a composite score of 87 (Low Average);
- The Full Intelligence Quotient has a composite score of 106 (Middle).

It was clear the gap between scores. Moreover, the subtest called Matrix Reasoning constitutes for the child a weakness area (here he should look at an incomplete matrix and select the missing portion from some response options). Guérolé stressed that the asynchronous development of these children, especially those who are of clinical interest, can be observed in the discrepancy between the verbal and the performance indexes that highlights the imbalance between the abstraction skills and the concrete, non-verbal reasoning. In fact, usually, verbal performance is greater in all gifted children [11]. Once again, the emotional interference is high during the execution of the test and then in the correct expression of his abilities. The psychological evaluation, carried out by clinical interview and projective graphic tests, revealed psycho-affective immaturity with accentuated egocentrism and high levels of anxiety, often badly managed by the child, with repercussions on the global performance. The use of cognitive strategies is therefore also disharmonious, because a greater manipulation of language skills is enabling a more functional use of verbal tools at the expense of non-verbal skills where the child needs to autonomously apply solution strategies based on a logical reasoning free of the forming language. The emerging vulnerabilities areas, which require strengthening to foster a greater harmonization of abilities and of the whole development, are more clearly defining. The therapeutic project therefore is re-modulated to allow such an evolution. We continue the speech therapy with the aim of promoting better meta-phonological and meta-cognitive skills, this also in view of the future entrance to the primary school.

In this phase of the speech therapy, we used role playing with the operator in order to expand phrasal structure and vocabulary. During these sessions, the child had to plan and restructure verbal communication to reach a specific goal. In such activities, of course, we worked simultaneously on the reinforcement of the attention and memory, which are essential neuropsychological pre-requisites for learning a skill. We continued to work also on the organization and stimulation of orofacial praxis abilities with tasks of increasing complexity by providing various materials (for example using straws to blow into liquids of different density, or moving objects with the breath and so on).

Once concluded the psychotherapy, in view of the areas of vulnerability emerged, a psychomotor intervention is associated at the rest of the child's project, this in order to modulate behaviors and emotionally manage body impulsivity. We know that the psychomotor can work at different levels and in this specific case, it has the objective of modulating energies and reducing the activation levels, so to facilitate the transition from the body to different organizational, representative and symbolic levels. In addition, this therapeutic intervention is performed in groups to facilitate, through the dramatization of mimed stories shared also at a body level, the symbolisms that enable the transition to metacognition; then, the verbal channel here is experienced as an adjunct and not the only way of access.

Fourth complex assessment, 7.7 years old-II year of primary school

For reasons of brevity and greater fluidity, here we report the last

significant assessment of the child. This step of the therapeutic project in fact brought the multidisciplinary team to reflect about the whole treatment and then, given the goals achieved, to decide to end the therapy.

It must be specified that we expanded the assessment battery used in the first evaluation including other tests because it was clinically necessary to investigate the various areas of development and their complexity, taking into account, over time, the skills reached by the child and of course his chronological age. It is to remember, in fact, that the first evaluation was performed at the age of 4 and the last, reported below, at the age of 7.

We would emphasize, however, that the child was also monitored in the important transition to the primary school, for example administering him specific tests to verify if the manipulation of the deep structures of language would allowed the learning of reading and writing in an appropriate manner. In this latest assessment described below, Francesco attended the second year of primary school. Again, here is confirmed the good openness to relationship and to perform structured tasks of the child that gave us the possibility of a more precise and complex evaluation. The observation of the psychomotor organization highlighted an adequate postural control (in the Vayer profile his performance is in line with the 7 years of age) and, thanks to the therapeutic work described above, the concentration difficulties with respect to his body axis are compensated and well developed. The inhibition in movement and in dynamic coordination persists and is expressed with clumsiness. The visuospatial organization attests excellent analytical skills (at the WISC-IV in the subtest "block design" he got a scaled score of 13). The language impairment is compensated and the child showed appropriate skills in comprehension and expression. The over-talkativeness has now become a good narrative capacity, this demonstrating the hypothesis of a not pathological development.

Here are the scores obtained in the tests related to learning and to cognitive abilities.

#### **Reading, MT Test [22]**

- Accuracy: 5-optimal performance
- Fluency: 9.2-optimal performance
- Understanding: 8-sufficient performance

The use of the lexical strategy is being completely automated and prosody and punctuation are in good evolution.

#### **Battery for the assessment of dyslexia and developmental dysorthography, DDE-2 Test [23]**

- Phrases (test 12): 8 errors at 10% to 25%-sufficient performance
- Homophonic not homographic phrases (test 8): 6 errors >25%-sufficient performance

#### **Battery for the assessment of the ortographic skills, BVSCO-2 Test [24]**

- Autonomous Production: 6.45 >25%-sufficient performance-(Description)
- Autonomous Production: 6.66 at 10% to 20%-sufficient performance-(Narration)

Assessment of computational skills, AC MT 6-11 Test [25]

- Written Arithmetic Operations: 3-sufficient performance

- Numerical Knowledge: 21-optimal performance
- Accuracy: 1-optimal performance
- Total time: 75-optimal performance

#### **Cognitive strategies were investigated with the WISC-IV [21]**

- Verbal Comprehension Index (VCI): 132-very superior
- Perceptual Reasoning Index (PRI): 117-high average
- Working Memory Index (WMI): 127-superior
- Processing Speed Index (PSI): 115-high average
- General Ability Index (GAI): 128-superior
- Full Scale (FSIQ): 131-very superior

The evolution of the child, in this last evaluation, confirmed a positive trend. The observation of the different areas of development shows a functional profile that is in line with age. The impairment is compensated even in the deeper aspects of linguistic competence because, in a complex symbolic passage, it was possible to process the read and written language without developing a consequent disorder.

#### **Conclusions**

As reported below, at the end of the second complex evaluation, the child was also included in a psychomotor treatment path. This therapeutic process helped the child to talk and tell about himself, so that he gradually started to bring the experience of maternal disability during the seats. We can consider and reflect on how much this aspect, although experienced in an affectively coherent dimension during the early years of life of the child, made it vulnerable the mediation through the necessary first experiences of movement, namely those which open to more advanced forms of cognition. We are witnessing, therefore, to an important evolution that goes from egocentrism to empathy. A higher processing of experiences enables a better emotional regulation, but we should consider that a better competence in emotional regulation also encourages and allows the processing of experiences so that they could be made aware and shared.

The analysis of cognitive strategies exhibit in the fourth complex evaluation, revealed high intellectual potential distributed in a non-harmonic way, but that testifies an important evolution from which we can draw some reflections:

- The verbal comprehension index (VCI) indicates the presence of a proper processing of linguistic structures; the language has then played its role in cognition forming and allowed the expression of the potential;
- The perceptual reasoning index (PRI) composite score increased if compared with previous assessments and, although formally we cannot compare the two different cognitive scales used, we can indicate as positive the work done on strategies and organizations considering this score raising and the greater fluidity in non-verbal logical thinking;
- The working memory index (WMI) and the Processing Speed Index we know they are the most susceptible areas of the interference caused by anxiety and psycho-affective immaturity. In gifted intellectual profiles, these scores are often lower than those of the other indexes, in a recurrent and statistically significant way. The lowest score obtained at the Processing Speed, in this case, is also to be put in relation with the poor harmony in the graphic movements

of the child, but however it corresponds to the higher average classification.

Through this clinical story, we would highlight two very important aspects: first of all, the sequentiality in the diagnosis and then the need for therapeutic non-sector specific responses. Francesco could become a good “storyteller”, starting from an almost total absence of language, because he has been helped to retrace the developmental stages that the maternal inability to contain his body impulsivity had made insufficient. The sequence of diagnosis, in our view necessary in children, is the only way through which diagnostic reflections can be integrated in elements that emerge in the course of treatment, so differentiating vulnerabilities by deficits. The need for global responses allows, as demonstrated in the story of Francesco, the expansion of all development components that can support the initially deficient function. Although many studies have emphasized the prominence of issues pertaining to the noise category “internalized”, it is still necessary a discussion on psychopathology aspects to avoid the assignment of diagnostic labels disrespectful of the peculiar development of these children. In conclusion, it should be emphasized the role of the family who worked in synergy with the professionals, joining the follow-up and the therapy sessions over the years, thus constituting a fundamental emotional point of reference, so supporting the delicate process of growth described, furthermore releasing the written consent for the publication of this manuscript.

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