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Supporting the development of **Highly Sensitive Children**



**SUPPORTING
THE DEVELOPMENT
OF HIGHLY SENSITIVE
CHILDREN**

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INTRODUCTION

This study is the result of an international collaboration of researchers and practitioners who have set themselves the common goal of developing support-oriented approach for highly sensitive children in their immediate environment.

High sensitivity is a temperamental trait that characterizes about 20% of the population. Research confirms that highly sensitive people process information and stimuli coming from their environment more strongly (intensively) and deeply than others. These individuals are more sensitive, both to positive and negative experiences. According to Elaine N. Aron (2013), the author of the concept of high sensitivity, the number of individuals characterized by high sensitivity is too high to treat the trait like any other trait, but too small for these individuals to be understood and supported by their environment in an adequate way. The trait acquires particular significance when we talk about children. For highly sensitive children, inadequate conditions of development may become particularly burdensome and consequently affect their future. The adult plays a key role in creating conditions for the child's development and is the primary source of support. The following parts, therefore, deal with the issue of conditions that support the child according to their immediate environment: parents who raise the child, specialists who work with the child, the institution (school, kindergarten) that creates conditions for development.

The book is addressed primarily to specialists who work with children aged 3–10 years daily (teachers, educators, psychologists, pedagogues), as well as to those who, due to their interests or professional responsibilities, are involved in supporting children. Given its content, the study can be useful for students of psychology and pedagogy. We also recommend the book to parents. Although we realize that parts of the book may be difficult to read in places, we are convinced that the knowledge and guidance it contains will pay dividends in both a fuller understanding of the nature of sensitivity and in effective support of children.

The book consists of four parts, which systematize knowledge about the functioning of a highly sensitive child and indicate the importance of the environment in which the child develops. Each part begins with an introduction summarizing the knowledge about the issue. A paragraph introduces conceptual underpinnings of high sensitivity, supported by information from research findings and existing knowledge. Consecutively, reference is made to the practical dimensions of the information - the authors seek to answer the question of how to put knowledge about the functioning of highly sensitive children into practice. Each section is summarized with short bullet points or tips on working with a highly sensitive child.


The first part, **SENSORY PROCESSING SENSITIVITY**, introduces the issue of sensitivity (its professional name, meaning and definition), as well as the specifics of behaviour of highly sensitive people. It characterizes the functioning of

a sensitive child in the physical, emotional, cognitive and interpersonal spheres. The last paragraph attempts to summarize the most important information.

In line with the goal of our work, adequate support of highly sensitive children should start with the trait identification, in the first place. To begin with, it is necessary to identify whether we are dealing with a highly sensitive child. Initial identification of temperament traits is often based on behavioural analysis, which in the case of highly sensitive children may be confused in the clinical picture with disorders such as hyperactivity, sensory integration disorder, autism spectrum disorders, among others. Competence in identifying the trait (positive diagnosis) should be the beginning of the process of supporting highly sensitive children, their families and their immediate environment.

The second part of the book comprises the content oriented on EDUCATION AND SUPPORT OF HIGHLY SENSITIVE CHILDREN. In research on child development, special attention is paid to the role of conditions for development, the importance of adequate stimulation. The source of stimulation for a young child is its immediate environment, especially the family home, and then kindergarten and school. The younger the child, the greater, more crucial for development is the importance of environmental stimulation, and thus the quality of the environment. In the first place, attention should be paid to creating conditions for the child's development. Such an educational contact requires the involvement of both the educator and the child. Accordingly, it is the person of the educator, teacher, caregiver and their skills that create the conditions that foster the child's development.

The third part of the book, EDUCATION AND SUPPORT FOR PARENTS OF HIGHLY SENSITIVE CHILDREN, provides a parent's perspective. It describes information that clarifies the child's characteristics, including aspects of the child's functioning that may be challenging for the parent. Special attention is given to the emotional realm of child functioning, the challenges of parenting, as well as specific methods of working with the child. The section is concluded with suggestions of activities recommended for working with the highly sensitive child.

The fourth part,  Evidence based embodied education strategies to promote well-being of highly sensitive children, presents a framework and practical strategies, based on psychological and neuroscience research, for understanding how embodied education facilitates regulation and an integrated sense of self, and thus contributes to health and well-being of highly sensitive children.

Knowledge and skills to support highly sensitive children are also essential for other adults who are important in the child's life. The content of the child's temperamental sensitivity area and the skills to support it could enhance the school's prevention activities, especially in universal prevention.

Accordingly, designing support for highly sensitive children is not about modifying their characteristics. Conscious work does not imply interfering with the trait, accepting it as a difficulty or a problem to be dealt with, but on providing conditions in which highly sensitive children will have equal opportunities to develop their potential.

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PART I

SENSORY PROCESSING SENSITIVITY. IDENTIFICATION OF HIGH SENSITIVITY

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Abstract

Sensory processing sensitivity has been determined as a personality trait featured by the perception, processing, and interpretation of internal and external stimuli. Thus, this trait has been considered by some recent research studies from different frameworks. Although it exists a lack of accuracy in terminology, some articles have demonstrated that sensitivity of sensory processing may not be considered as a disorder. Therefore, this trait shows different ways to be manifested in some life spheres: physical, cognitive, emotional and interpersonal. In fact, in each sphere we can find several characteristics of sensory processing sensitivity and its manifestation depending on the level. Despite in some cases this trait has been associated with poor well-being, health and quality of life, research reports that sensitivity has a variety of degrees resulting in positive outcomes in general population. This chapter will present a definition of sensory processing sensitivity, a summary of high sensitivity characteristics, some theoretical approaches and recommendations for parents and teachers who are in contact to children with high sensitivity.

Keywords: sensory processing sensitivity, personality trait, health, spheres

DEFINITION, MEANING AND CONCEPTS: A LITERATURE REVIEW

Over the years, Sensory Processing Sensitivity (SPS) has been defined as a continuum which represents individual differences in relation to the perception and information processing, depending on the biographical experiences and the context (Aron & Aron, 1997, as cited in: Greven et al., 2019; Lionetti et al., 2018; Pluess, 2015). The

term SPS has been described from a vast variety of studies as an underlying phenotypic trait characterized by the ability to register and process the environmental stimuli and its association to a more deeply cognitive, sensory and emotional information processing; probably due to a more sensitive central nervous system (Aron & Aron, 1997; Greven et al., 2019). According to the assumptions of the theory of Environmental Sensitivity (Pluess, 2015), humans are programmed to perceive, process and react in a certain way to environmental stimuli. This way of processing the environment's stimuli has a necessary function for survival, since it would allow adaptation to the context (Pluess et al., 2018). However, despite the fact that there is a neurobiological predisposition oriented to the development of this adaptive function in humans, significant differences have been observed in the way in which people react to environmental stimuli, with some individuals having greater sensitivity to them (Pluess, 2015). Thus, it seems to be demonstrated that some people are much more sensitive and reactive to the environment and context than others, making them highly sensitive (Belsky & Pluess, 2009; Ellis, Boyce, Belsky, Bakermans-Kranenburg & Van IJzendoorn, 2011, Greven, et al., 2019). Hence, this highly sensitive trait has been related to increased emotional reactivity and empathy, greater awareness of environmental subtleties and ease of overstimulation (Acevedo et al., 2014; 2018; Aron, Aron & Jagiellowicz, 2012; Goldberg & Scharf, 2020; Homberg, Schubert, Asan & Aron, 2016; Pluess, 2015).

In this regard, SPS has been differently characterized by several theoretical frameworks. For instance, Belsky and Pluess (2009), from a developmental psychology perspective, propose the *Differential Susceptibility* theory (Pluess & Belsky, 2015) identifying that individual differences in environmental sensitivity entails two alternative strategies: plasticity and adaptation. From this point of view, genes are involved in environmental sensitivity and could make people more vulnerable to environment stimulus. In fact, SPS has been investigated by some researchers based on neurobiological studies who have identified several genetic, physiological and behavioural markers of highly sensitivity (Belsky & Pluess, 2016). In this sense, it has been demonstrated a significant association between SPS with both serotonin and dopaminergic system (Chen et al., 2011; Licht, Mortensen & Knudsen, 2011). Functional Magnetic Resonance Image (fMRI) studies point out that high levels of SPS are associated with increasing reaction time and activation of brain areas (such as, for example, left occipito-temporal and bilateral temporal regions) which deal with high-order visual processing and attention (Jagiellowicz et al., 2010). Likewise, other neuroimaging studies show that specific brain areas are implied in affective and cognitive processes. Specifically, the insula is responsible for sensory integration and awareness; the inferior frontal gyrus is related to empathy; the cingulate cortex activation is related to the levels of attention and preparation for action; and, finally, dorsolateral prefrontal cortex is involved in cognitive self-control, decision making and self-regulation as well (Acevedo et al., 2014). Thus, the theory of Biological Sensitivity to Context (Ellis & Boyce, 2011), based on a neurobiological perspective, explains the physiological differences in reactivity to environment depending on individuals

stress responsiveness. In this regard, this theory determines that some individuals with higher response to stress are more susceptible to suffer from negative consequences when they are involved in negative environments (Ellis & Boyce, 2011).

Other studies about Temperament and Personality traits fairly confirm, from Eysenck's personality theory (Eysenck, 1967, Sargent, 1981), the existence of a positive association between SPS and Neuroticism, as well as a significant positive correlation with the Behavioral Inhibition System (BIS) (Aron & Aron, 1997; Greven et al., 2019; Homberg et al., 2016). Furthermore, SPS has demonstrated to be negatively related to the Extraversion domain of personality (Lionetti et al., 2018; Pluess et al., 2017). Thus, SPS is considered as a temperament trait rather than a disorder. Despite of the likelihood of presenting behavioural difficulties during the infancy and adulthood when highly sensitive populations are getting involved in adverse environments, which affect negatively on their health and well-being, it exists positive outcomes when they are exposed to positive life events (highlighting their academic career, especially in creative areas) (Booth, Standage & Fox, 2015; Kibe, Suzuki, Hirano & Boniwell, 2020).

Most authors agree that some children and adolescents appear generally more sensitive than others, which means that they are more influenced by features of their developmental context (Pluess, 2015). Although the topic is relevant in terms of health and society, there is a gap in the research to clarify this construct, its origins, and the ways in which may be modulated.

Furthermore, as above-mentioned, the theoretical background indicates that SPS is associated with a more deeply cognitive, sensory, and emotional processing of information perceived from environmental experiences. This is based and supported by different approaches such as Differential Susceptibility theory, Biological Sensitivity to Context theory and Eysenck's personality theory. In sum, it seems that some people are much more sensitive and reactive to the environment and context around them than others, characterizing them as highly sensitive people (HSP). The characteristics of HSP will be described below.

CHARACTERISTICS OF HIGHLY SENSITIVE PEOPLE

As aforementioned, highly sensitive people process information and environmental stimuli more deeply than other individuals. Sometimes, highly sensitive people (HSP) could be misunderstood and classified as over-reactive, dramatic, egocentric, difficult, shy, neurotic, anxious or depressive people (Degnan & Fox, 2007; Fox, Henderson, Marshall, Nichols & Ghera, 2005). However, it is relevant to highlight that recent studies do not deem it as a "sensory processing disorder" (SPD), since it implies a condition in which individuals are hypersensitive to lights and sounds, and they would present difficulties in sensory signals integration (Acevedo, 2020). As indicated previously, SPS is a continuum, so that trait has a variety of degrees and people may find their own threshold modulated by the environment (Acevedo,

2020; Greven et al., 2019). Neither in case, SPS leads to communicating, socializing and mobility complications, nor poor coordination or disorientation to sensory signals (Acevedo, 2020). Some studies supports the idea of pointing out the underlying phenotypic temperament trait characterized by the cluster of high sensitivity features in four dimensions, creating an acronym named DOES, which means: 1) Depth of processing (great amount of detailed information processed in relation to an object, information or stimulus); 2) Overstimulation (processing situations including the actions and behaviours of other people more deeply and thoroughly than their peers); 3) Emotional reactivity (intensive reactions to both positive and negative emotional life events); and 4) Subtle stimuli (more awareness of details, subtle sounds, touch, smell and other delicate stimuli) (Acevedo et al., 2014; Aron & Aron, 1997; Aron et al., 2012; Greven et al., 2019).

Nevertheless, despite of this negative perspective finding out associations among high sensitivity and mental health problems, it exists a positive side of this phenomena which makes HSP be characterized by profitable advantages skills, not considering it as a weakness, deficiency or disease. Hence, it is known that HSP might achieve an optimal development (Acevedo, 2020; Aron et al., 2012; Aron, 2020; Greven et al., 2019). However, this perspective is different from the others that present positive correlations among characteristics of high sensitivity and mental health problems (Aron, 2020; Greven et al., 2019).

This guide pretends to make a deeper analysis of the most important characteristics of HSP, in the physical, cognitive, emotional, and social area, showing a complete profile hardly ever mentioned before.

Physical area

In particular, although physical characteristics could comprise external and internal sensitivity, reactions of physical discomfort to the environment, difficulties to sleep, HSP are individuals with exceptionally well-developed sensory perception abilities (Acevedo, 2020).

Regarding external physical reactivity, they are able to notice subtle odours, sounds, small gestures, changes in the tone of voice and other delicate stimuli (Acevedo, 2020; Meyer & Carver, 2000). Indeed, being more aware of threats and harm may avoid exposure to them thus increasing their health and survival, so that this skill allows HSP people be more alert to opportunities, resources, and rewards (Acevedo, 2020; Aron et al., 2012). Furthermore, having high memory capacity to remind these adverse events might be adaptive and could prepare individuals to cope with similar situations in the future (Acevedo, 2020). Findings from previous physiological studies state that HSP present a lower sensitivity threshold so that they are more prepared to cope with environment changes even more quickly and adaptatively than non-HSP. Thus, it results in a risk factor but even a protective one in response to hostile environment (Hartman & Belsky, 2018; Jagiellowicz, Zarinafsar & Acevedo, 2020).

Considering internal physical reactivity, studies confirm that HSP could suffer from physical fatigue, especially if they are involved in a highly stimulating contexts during a long period of time with no rest. In this regard, they usually pay attention to every perceived stimulus to answer as fast and adequately as possible (Acevedo, 2020), increasing their sensorial and physical fatigue. Indeed, HSP present more frequently and intensively bodily sensations, such as hunger or pain, than non-HSP (Rappaport & Corbally, 2018). Moreover, it is relevant to emphasize the existence of physiological differences in stress-response systems, such as higher cortisol production, arterial pressure and immune reactivity in HSP (Greven & Homberg, 2020).

Cognitive area

This area is related to cognition and some specific characteristics of HSP, such as cognitive inflexibility, cognitive overload, deep cognitive processing, perfectionism, the need of control and fear/anxiety thoughts (Weyn et al., 2019). Although some of these features could lead to negative consequences, it is gradually recognizing that the neural plasticity inherent of SPS may breed positive attributes to HSP, such as enhanced creativity, awareness, and openness (Bridges & Schendan, 2019; Jagiellowicz et al., 2020). In addition, HSP have vivid dreams and a rich imagination, as well as a tendency to reflect upon various activities in detail (Bridges & Schendan, 2019; Jagiellowicz et al., 2020).

Unlike non-HSP*, HSP could remark the difference by memorizing a large number of details of observed events, situations, phenomena and also paying attention to the less obvious elements of a situation that most people do not pay attention to; usually due to a deeper and longer processing time of new information compared to peers (Aron & Aron, 1997; Jagiellowicz et al., 2020). This advantage provides them with more effective learning from their own experiences and with the ability of drawing conclusions from experiences to increase efficacy too (Acevedo et al., 2014).

It is important to highlight that some cognitive factors related to executive functioning (EF, such as attention, inhibitory control and self-regulation) may moderate the effects of HSP's temperament. Concretely, self-regulation dimension could be divided into effortful control (the ability to voluntarily shift attention) and inhibitory control (the ability to inhibit one's dominant response). Also, HS children who present high levels of behavioural inhibition are at lower risk for developing anxiety and other emotional problems and exhibit a greater monitoring of performance. Moreover, in this population effortful actions are required to escape from a stressor since it is connected with positive mental health outcomes (Boeke, Moscarello, LeDoux, Phelps & Hartley, 2017; Jagiellowicz et al., 2020; McDermott & Fox, 2010; Rothbart, Ellis, Rueda & Posner, 2003; Eisenberg, Downs, Golberstein & Zivin, 2009; White, McDermott, Degnan, Henderson & Fox, 2011). It is also known that high sensitivity is associated with suffering higher levels of stress while doing some cognitive activities; but even showing more distressed performing in tricky perceptual tasks, HSP do them faster and more accurately (Gerstenberg, 2012). Therefore, HSP can

achieve a better contentionsness of the long-term consequences of their own actions (Boterberg & Warryen, 2016).

In addition, other positive aspects of this trait are analysing and seeking dependencies, searching for similarities between the current situation and previous ones, creating associations, and the use of comparisons and figurative schemes. However, this fact may imply the presence of some difficulties in decision-making due to processing of too many options (Acevedo, 2020). This issue is directly related to the deep processing of environmental information, demonstrating an above average ability compared to peer group (Greven et al., 2019). Despite the advantages of this feature, HSP might be cautious in order not to reach a mental fatigue since unlike non-HSP, they are more likely prone to get it (Jagiellovicz et al., 2020).

In a propitious environment, HS children achieve better grades in school, have more constructive moral attitudes and they can make use of a more complicated vocabulary than their peers do, being even more qualified (Aron, 2002; Pluess & Belsky, 2013). Hence, some authors indicate that they do not only engage in deep thinking, make better decisions, ponder spiritual questions, and engage in meaningful work, but they are also gifted, mystical and intuitive (Acevedo, 2020; Aron & Aron, 1997; Aron et al., 2012).

Emotional area

This field is associated with deep experience, intense expression and somatic manifestation of emotions, high levels of stress, attachment to objects and emotional interactions with nature, art and animals (Greven et al., 2019). Crying, hyperactivity, flow and negative attitude are indeed found out as some reactions of emotions (Acevedo, 2020). Indeed, some studies state that SPS levels are significantly related to low self-esteem and shame, since they feel “different” and scared of being misunderstood as a result of the prejudices (Acevedo, Aron & Aron, 2018; Acevedo et al., 2018; Acevedo, 2020; Aron et al., 2010). Nevertheless, HSP show emotional positive aspects such as empathy and sensitivity towards others, intensity in experiencing feelings and a smart sense of humour (Aron et al., 2012; Acevedo et al., 2017; Acevedo, 2020).

Research also indicates that HSP show high empathy levels as they present emotional advantages such as being more in tune with their own thoughts and emotions, more aware of the emotions of others, and more responsive to and aware of environmental changes. Highly sensitive children are indeed able to sympathize with the mood states of other people. Hence, they are “attuned” to others, specifically, to their relatives and close people (Nocentini, Menesini & Pluess, 2018; Slagt et al., 2018). In this way and beyond empathy, high sensitivity helps to enhance the environment, adjusting it and making it more comfortable to others, so that it contributes to experience less chaos (Acevedo, 2020). This is an important key to differ the high sensitivity from autism spectrum disorder (ASD) because the first one is more prepared to perceive someone’s sadness, anger and joy than non-HSP or ASD (Acevedo et al., 2014). Thus, these characteristics might allow parents of HS children

be more empathetic and more aware of their child's needs, which facilitates stability and cooperation into relationships and confidence among close people; helping HS children to be more socially adapted (Aron et al., 2019; McNamara & Houston, 2009). Although these emotional abilities could grant benefits for both HSP and their environment, it is necessary to be careful in order not to become overly distressed, since HSP could not develop appropriate coping strategies when they feel emotionally overwhelmed (Acevedo, 2020; Fehr & Rockenbach, 2004; Preston, Hofelich & Stansfield, 2013; Raghanti et al., 2018). However, in a favourable environment, HS children achieve higher levels of self-regulation and a greater sense of security resulting from experiencing the love of their families (Aron, 2002; Pluess & Belsky, 2013). Hence, they may be deemed both empathic and nurturing people (Acevedo, 2020).

Furthermore, high empathy levels allow them to cope with the feelings of other people and they are also more likely capable to identify injustices and to defend those perceived as weak (Acevedo, 2020; Aron et al., 2012). In this sense, they notice more likely the suffering and stress of other people (for example: peers, family members, strangers, sometimes even characters from cartoons or movies and animals) (Acevedo, 2020). This aspect is related to the activation of some brain areas which are responsive of consciousness, the integration of sensory information and preparation for action in response to emotionally evocative social stimuli (Acevedo et al., 2014; Acevedo et al., 2017).

Hence, highly sensitive people react more intensively to images that evoke both pleasant and unpleasant emotions (they seem to react intensively to both negative and positive experiences). In fact, HSP who were reported to have experienced a happy childhood responded more intensively to pleasant photos (Jagiellowicz et al., 2010). These results provided evidence for the positive impact of highly sensitive child's educational environment. This intense emotional perception of both pleasant and unpleasant emotions may be explained by the role of cerebral areas as the insula and limbic system which are actively involved in emotional reaction of this feature (Acevedo, 2014).

Family and Social area

Family and Social area may be the most relevant one regarding high sensitivity. This dimension is especially important so as to the characteristics of the environment in which HSP are involved determine the characteristics of the HSP profile. This is due to the inherent plasticity characteristic of environmental sensitivity that allows individuals to be highly influenced by their environment both "for better and for worse" (Jagiellowicz et al., 2020; Slagt, Dubas, van Aken, Ellis, Dekovic, 2018). Although the trait itself is not the symptom, but rather these symptoms could emerge when individuals experience continued exposure to maladaptive or stressful environments. Concretely, temperament trait studies state that a poor childhood is considered a risk factor that precedes adult emotional negative consequences (Aron et al., 2005; Aron, Aron, Nardone & Zhou, 2019; Jagiellowicz et al., 2020). Also, parenting styles have

been investigated with respect to SPS. This variable might influence the behavior of children, by training them in adaptive self-regulatory technics to manage quietly their emotions and thoughts (Degnan & Fox, 2007). Likewise, positive parenting styles could promote empathy and prosocial behaviour among children, achieving more social adaptation, through reasoning with the child, providing warmth, support, acceptance, responsiveness, and autonomy (Eisenberg, Damon & Lerner, 2006; Hane, Cheah, Rubin & Fox, 2008; Hankin et al., 2011). Even the parental attachment patterns are related to the children's quality of life and also to the sensory sensitivity, being greater when the levels of insecure parental relationships with toddlers are higher. As a matter of fact, a previous study has identified that parents who are highly sensitive facilitate nonoptimal parenting styles, such as permissive, authoritarian, less warmth and also controlling parenting behaviours (Branjerdporn, Meredith, Strong & Green, 2019).


In social interactions, HSP demonstrate social distraction due to the aforementioned overstimulation, mental blocks, and a lack of communication skills to satisfy their needs. Compared to less sensitive peers, slow adaptation to new people and situations is noticed in HSP due to the desire to carefully observe and reflect upon them. Highly sensitivity to subtleties is a feature that HSP may use in sports, interpersonal communication, in school, etc. This feature makes it easier for them to interpret expectations, including those of their peers and teachers (Aron, 2002).

Moreover, this population exhibit high reactivity to social rewards and punishment and coping social situations presenting fear/anxiety, avoiding troubles, and thinking about their fault (Kibe et al., 2020; Pluess & Boniwell, 2015). That means HSP may have more influence from the environment in which they are involved. Hence, as indicated previously, HSP growing up in adverse or inhibition conditions (particularly during the childhood) are more likely predisposed to sick and suffer from physical and psychological negative consequences (Acevedo, 2020; Aron, Aron & Davies, 2005). However, in a supportive environment, HS children achieve higher levels of social competency, and these conditions allow them to benefit from positive upbringing and teaching unlike non-HS children (Aron, 2002; Pluess & Belsky, 2013). Indeed, social support is a factor that may buffer mental health consequences in HSP who suffered a childhood defined by maltreatment or other stressful life events, promoting resilience, even in the presence of a genotype expected to confer vulnerability to psychiatric disorders (Pluess & Boniwell, 2015). Although HSP are prone to experience stress, some studies have demonstrated the positive correlation between high sensitivity and resilience. Moreover, HSP responded more favorably to the school's resilience building programs, which results in fewer mental health problems. In addition, this kind of programs obtains a positive impact against bullying (Mitchell et al., 2011; Nocentini et al., 2018; Pluess & Belsky, 2010; Pluess & Boniwell, 2015).

SUMMARY OF CHARACTERISTIC OF HIGH SENSITIVITY

Table 1.1 shows a summary of the highlighted features of high levels of sensory processing sensitivity which have been mentioned before. These characteristics have been classified in physical, cognitive, emotional, and family and social area.

Table 1.1 Summary of the characteristics of high levels of sensory processing sensitivity

<i>Physical area</i>	
Highly developed sensory perception	
Accurate perception of smelling, hearing and visual stimuli	
More awareness of environmental adverse elements	
<i>Cognitive area</i>	
Creativity, awareness and openness	
Vivid dreams and enriched imagination	
Great memory of events, situations and phenomena observed	
Inhibited behavior means low risk of developing mental health problems	
Above average ability of deep processing of environmental information	
Fast and accurate execution in cognitive tasks	
<i>Emotional area</i>	
Empathy, sympathy and intensity in experiencing feelings	
Accordance with thoughts and emotions	
Awareness of emotions of others	
Stability, cooperation, confidence	
Higher levels of self-regulation in favorable environments	
<i>Family and social area</i>	
Childhood experiences as significant factors of HSP behavior	
Higher levels of social competency, upbringing and teaching	
Parenting styles as a great influential variable	

In fact, according to some aforementioned research studies, paying attention to the positive side of this personality trait, high sensitivity could be categorized as an advantage, pointing it out as a general virtue (Aron, 2002; Pluess & Belsky, 2013).

RECOMMENDATIONS FOR PARENTS AND TEACHERS

According to the developmental psychology approach, it is important to consider the recommendations below (Table 1.2). Thus, to favour a suitable highly sensitive children development, following these suggestions may contribute to the emotional management and social interaction of these children. Also, creating a supportive environment could help to know themselves and their skills to successfully cope their life events.

Regarding the area of education, teachers have a central role. HS children need to be assisted to reach their maximum performance in the academic world. They are prone to achieve an optimal development so that it is relevant to highlight the work with the validation of emotions and thoughts, in order not to seem weird. Moreover, it is important to focus on social interaction to facilitate the inclusion of these children. Table 1.2 also presents some strategies to work with highly sensitive children.

Table 1.2 Recommendations for parents and teachers with highly sensitive children

<i>Parents</i>
Pay more attention to the children needs daily
Understand, encourage, and validate their skills
Enhance their self-esteem and emotional regulation
Facilitate their self-identity
Promote a favourable environment to buffer stressful events
<i>Teachers</i>
Train them to take advantage of their strengths
Provide them with tools to manage their sensitivity
Talk to them daily to dose the emotional expression
Facilitate confident environment to improve social relationships to their peers
Validate their thoughts and emotions to express them freely

As indicated previously, sensory processing sensitivity (SPS) has presented a spectrum formed by different degrees and individuals could show a modulation of their own threshold by the internal or external stimuli (Acevedo, 2020; Greven et al., 2019). In addition, DOES is an acronym created to point out that sensitivity trait is manifested by the cluster of four dimensions: 1) Depth of processing (great amount of detailed information processed in relation to an object, information or stimulus); 2) Overstimulation (processing situations including the actions and behaviours of other people more deeply and thoroughly than their peers); 3) Emotional reactivity (intensive reactions to both positive and negative emotional life events); and 4) Subtle stimuli (more awareness of details, subtle sounds, touch, smell and other delicate stimuli) (Acevedo et al., 2014; Aron & Aron, 1997; Aron et al., 2012). Thus, highly sensitive people (HSP) perceive, register, process and interpret environmental information more deeply, manifesting physical, cognitive, emotional, and interpersonal outcomes (Acevedo, 2020). Although some articles provide a negative view of high levels of SPS, recent research studies could associate it with a 'bright side' which makes high sensitivity be related to a rich well-being and quality-of-life outcomes (Pluess, 2017; Iimura, 2021).

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PART II

EDUCATION AND SUPPORT FOR EDUCATORS AND TEACHERS OF HIGHLY SENSITIVE CHILDREN

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Abstract

The aim of this part is to design actions to support highly sensitive children in their immediate environment. Part 2 is aimed at the teachers. Firstly, the importance of the environment for the upbringing of highly sensitive children is examined. Qualities of the external environment such as noise and sensory overload, as well as the support experienced by the child are all important for the child's development. In maladjusted conditions the child will experience difficulty to adapt, while optimal support facilitates development of the child's own potential (Vantage Sensitivity). The optimal attitude of the parents and carers working with highly sensitive children and its roots in humanistic psychology are described afterwards. A highly sensitive child is the recipient of educational and parental efforts. Realization of those functions requires considering specific needs of a highly sensitive child and the adaptation of the ways of achieving those goals. Because of the specific ways of experiencing reality and the individualized responses, a highly sensitive child is often seen by teachers as difficult. It requires an effort of their part to surface and develop the child's innate potential.

Keywords: highly sensitive child, educational environment, upbringing, humanistic upbringing, vantage sensitivity

THE IMPORTANCE OF THE ENVIRONMENT FOR THE DEVELOPMENT OF HIGHLY SENSITIVE CHILDREN

In this section we will try to explain why the environment in which a highly sensitive child is brought up is particularly important. There is no doubt that this is a universal truth, because for every child the environment in which they are brought up matters. Creating the conditions for proper development is the definition of upbringing. However, humans (but also animals) differ in their sensitivity to positive and negative environmental stimuli. Some are more sensitive others less so. This means that for some, the immediate environment will not matter as much as for others.

For highly sensitive children, the quality of the environment in which they grow up is of particular importance (cf. Aron 2002; Belsky 1997; Ellis and Boyce 2011; Greven et al. 2019).

Highly sensitive children are characterised by traits which, if misinterpreted, can lead to ineffective or even harmful educational interventions. Highly sensitive children are attentive to the moods of others, get frustrated quickly (especially when they have to do many things at once), are accurate, disciplined, try not to make mistakes, they find it difficult to work when they are being watched or when they are under pressure (e.g., time, score). They usually observe first and only then act. Some of them are particularly gifted (Rinn et al. 2018). These children are more sensitive to their environment and respond with stronger emotional and behavioural reactions (e.g., cry, displeasure, scream, sadness, anger). Highly sensitive children, when confronted with too many stimuli, adopt behaviours that can be mistaken for hyperactivity, attention deficit disorder, sensory processing disorder, or autism spectrum disorders. The behaviour of highly sensitive children is also described as shyness, withdrawal, fearfulness. These children are more prone to be stressed and find it more difficult than their peers to accept changes in their environment. Highly sensitive children are also characterised by creativity, intuition, and a sense of humour.

Hence, if we look at the specifics of the characteristics and behaviours mentioned above, the observation emerges that high sensitivity can be both a risk factor and a protective factor for the child's normal development. The quality of the child's immediate environment (home environment, and pre-school and school environment) plays a key role in creating the conditions for children's proper development. Adequate support for children enables them to understand and treat vulnerability as their **potential** rather than deficit or burden. This does not change the awareness of the challenges adult carers face; however, it provides the complete overview, showing the other side of the coin.

Knowledge in the field of developmental psychology clearly indicates that early childhood experiences reflect in a special way on the child's further development. During this time, the immediate environment plays a particularly important role. During early childhood (also in view of preparing for schoolwork) it is essential to recognise the child's potential, opportunities, and difficulties in different areas of functioning. High sensitivity can hinder or delay maturity in this dimension. Awareness of the child's resources makes it possible to manage the educational and upbringing process in such a way as to develop, expand and modify the child's resources, rather than focus on deficits or difficulties. The assumptions in this book, as well as in the project under which it is being developed, is based on the concept of Environmental Sensitivity (or sensitivity to the environment). This is the context for concepts that explain individual differences in the ability to register and process environmental stimuli (Pluess 2015; Pluess et al. 2018; Pluess and Belsky 2010).

RESEARCH EVIDENCING THE IMPORTANCE OF THE EDUCATIONAL ENVIRONMENT FOR THE DEVELOPMENT OF HIGHLY SENSITIVE CHILDREN

Research conducted on the quality of the educational environment and sensitivity indicates the occurrence of interaction. These studies (e.g., Aron and Aron 1997) found that highly sensitive adults who have a perception of an unhappy childhood scored higher in the areas of negative emotionality and social introversion, while highly sensitive adults who experienced a happy childhood did not differ in the severity of the aforementioned traits from the non-highly sensitive population (Aron and Aron 1997). Proper support for highly sensitive children is also particularly important from the perspective of the findings of other studies. Aron et al. (2005) pointed out that under conditions of an inefficient educational environment, highly sensitive individuals are more likely to experience shyness, anxiety and depression. In contrast, a study by Liss et al. (2005) found that low and inadequate parental care for highly sensitive children was significantly associated with their later depression (pro: Liss et al. 2008).

The results of the study by Aron, Aron, Nardone and Zhou (Grevén et al. 2019) indicate and evolutionarily conserved trait describing inter-individual differences in sensitivity to both negative and positive environments. Despite societal interest in SPS, scientific knowledge is lagging behind. Here, we critically discuss how SPS relates to other theories, how to measure SPS, whether SPS is a continuous vs categorical trait, its relation to other temperament and personality traits, the underlying aetiology and neurobiological mechanisms, and relations to both typical and atypical development, including mental and sensory disorders. Drawing on the diverse expertise of the authors, we set an agenda for future research to stimulate the field. We conclude that SPS increases risk for stress-related problems in response to negative environments, but also provides greater benefit from positive and supportive experiences. The field requires more reliable and objective assessment of SPS, and deeper understanding of its mechanisms to differentiate it from other traits. Future research needs to target prevention of adverse effects associated with SPS, and exploitation of its positive potential to improve well-being and mental health.

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"given": "Judith"}], "issued": {"date-parts": [{"2019", 3, 1}]}, "schema": "https://github.com/citation-style-language/schema/raw/master/csl-citation.json"} indicate that in relation to the quality of parental influence, highly sensitive mothers were found to score significantly higher in the area of parenting difficulties and in "attunement" to the child (indicating noticing and responding to the child's needs). The same study found that highly sensitive fathers scored higher only on 'attunement'. The findings indicate that it is particularly important for highly sensitive parents to have effective ways of coping with the excessive stimulation that comes with parenting responsibilities.

A study on adult life satisfaction found that people with high sensory processing sensitivity reported significantly lower life satisfaction when childhood experiences were particularly negative, whereas no such differences were found for positive childhood experiences (Booth et al. 2015).

Analyses by Boyce et al. (1995) conducted with highly reactive children indicate that these children in stressful home and school environments are more likely to become ill and suffer more injuries. Conversely, in relatively less stressful environments, they get sick or injured less often than their peers. The author was the first to introduce the analogy of flowers, referring to sensitive children as orchids, and non-sensitive children, as dandelions (Boyce 2019). In their subsequent works, (Lionetti et al. 2018) the term tulips was also introduced - thus defining the greater part of the population, people with average sensitivity.

The second group of studies providing basis for and confirming the need for planning support for highly sensitive children relates to their functioning in the school environment. According to researchers (i.e. Tillmann et al. 2018), sensory processing sensitivity (SPS), as a temperamental trait that is associated with deeper information processing plays an important role in educational contexts. In a study conducted with children of German descent, children in the seventh and eighth grades answered questions on the HSP scale enriched with additional questions about subjective school-related values or school-related self-efficacy. Among other things, the results of the study indicate a negative relationship between sensitivity and school effectiveness and student grades. Despite some criticisms of methodological problems, the findings of this research enrich the existing literature on SPS in the school context and provide important practical implications (Tillmann 2016). Another study by Tillmann et al. (2018) looked for answers to how SPS affects other school-related variables in students. Based on the specific characteristics that go along with environmental sensitivity (such as ease of overstimulation, depth of processing), it was assumed that functioning in the school classroom would be more difficult for students with higher sensitivity. The school situation often involves noise, sudden and unpredictable changes. It is not always possible to prepare for them, or to withdraw and calm down. As a result, highly sensitive children can easily become overwhelmed by external stimuli. This in turn can lead to overstimulation and, in the long term, possibly well-being decline and deteriorated school performance. It was also pointed out that not only external factors (such as noise) and time pressure make it difficult for students to

work under these specified conditions. Also, the specific requirements and tasks that the student faces in the classroom, such as the exposure situation (presenting in front of the whole class) are important. The conditions and tasks listed can significantly impede functioning and consequently cause negative effects in highly sensitive pupils. The results of the referenced study suggest that an adverse environment may lead people to experience difficult emotions later in adult life (Aron et al. 2005; Tillmann et al. 2018). It is important to note that other studies (i.e., Pluess et al. 2017) indicate positive outcomes when the environment in which the child develops is supportive. Researchers at Queen Mary, University of London led by Michael Pluess write about vulnerability giving an advantage - Vantage Sensitivity, indicating the feature as an overall advantage and looking at it in terms of resiliency. This position is supported by, among others, research findings indicating that highly sensitive children respond positively to psychological intervention (Pluess and Boniwell 2015).

Achermann (2013, after: Tillman 2016) explored how highly sensitive adults perceive their time at school. He analysed key aspects of the lesson, looking at what, in hindsight, was helpful for school success. Her results were consistent with those of Aron (2002). Research findings (e.g., Achermann 2013; Aron 2002; Tillmann 2016) indicate that highly sensitive individuals:

- usually have no problems with school assignments and good grades due to processing content at a deeper level
- are characterised by perfectionism - expect a lot from themselves
- prefer a quiet learning environment and an atmosphere conducive to concentration and work
- pay attention to the physical environment and its aspects, such as the colours of the walls of rooms, light, decor
- prefer being taught through direct individual instruction
- do not like to perform in front of a group - however, if group work is used and preferred by the teacher, they prefer to work with friends rather than with people who are unknown to them
- in situations of over-stimulation, they may behave in ways that could be interpreted by the teacher as low motivation or attention deficits
- feel uncomfortable in new and unfamiliar situations
- prefer repetitive, structured lessons, rules and rituals; in unclear, unstructured situations, sensitive people can become nervous, anxious and unbalanced
- are often tired after school
- prefer a small circle of friends; larger groups and large spaces (such as the canteen, school playground) are perceived negatively
- are sometimes victims of school violence
- are negatively impacted by conflicts (conflict situations make it difficult for them to maintain attention during lessons and even afterwards when they are at home).

The results of other studies concerning retrospection and evaluation of different situations during school time, indicate that highly sensitive people rated exposure to stress, as well as noise, as the most difficult. The positive behaviour of teachers

like understanding and empathy, was rated as beneficial. The results confirmed the assumption related to the fact that HSPs are more likely to experience sadness, stress, worry, and generally difficult emotions. It is interesting to note, however, that the results of research also indicate that if the childhood of highly sensitive individuals was happy, in adulthood these individuals were just as happy as their non-sensitive peers. Aron (2002) speculates that highly sensitive children under favourable conditions are able to benefit more from upbringing and teaching than their less sensitive peers.

SUPPORT FOR HIGHLY SENSITIVE CHILDREN IN THE EDUCATION SYSTEM

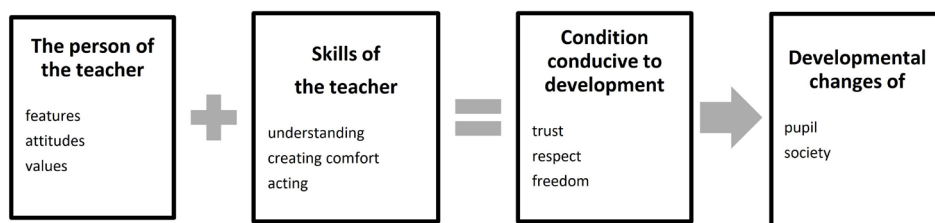
Good teachers are the backbone of good schools and promoting teachers education, enhancing their knowledge and skills is one of the best investments of time and money that local and national authorities can make in education (Baryła-Matejczuk 2016). Teachers are the most important link in the process of designing quality education and the outcomes achieved by students depend on their teachers' competences (IBE 2014; Pitsoe and Maila, 2012; Turska 2006; Zakaria and Daud 2009). The teaching profession is characterised by working with people (mainly children and young people) and its primary purpose is to educate and train. The essence of the teacher's work is the subjective treatment of pupils by stimulating their development and leading them to self-education and self-development. The teacher's role is therefore to create conditions conducive to students' self-actualisation. It is teaching in which the pupil is guided and inspired by the teacher who sets tasks to the pupil according to his own vision of development, and close interpersonal contact with the pupil (with the use of involvement and emotional exchange processes) plays an important role (Gaś 2001; Sęk 2010; Zaborowski 1986).

The overarching aim of educational work is to support the all-round development of the pupil through the implementation of the following tasks: teaching, upbringing and skills training. The main task of the teacher is therefore to create conditions for the pupil to activate his/her actualising tendency (Roger 2002), or in other words to create conditions for comprehensive development (Gaś 1999, 2001, 2006).

On the basis of the research results cited in the previous paragraph, it can be concluded that the teacher, as a person of the immediate environment, creates conditions and it depends on his/her professional and personal competences what opportunities for development the students will receive. This raises the question of what competences a teacher who supports a child (all children), especially a highly sensitive one should possess. In works from the field of psychology and pedagogy, numerous categorisations of key competences for teacher's work are mentioned (cf. Kwaśnica 1995). However, taking into account the specificity of the functioning of the highly sensitive child and the above definition of upbringing, the humanistic model of supporting the child in development and the resulting characteristics and skills of the teacher (educator) conditioning the climate supporting development will be presented.

This model adapts Brammer's formula of the helping process for educational relationship. It was proposed by Z. B. Gaś (1999) and takes the form presented in the Figure 2.1:

Figure 2.1 The process of creating conditions conducive to the student development



After: Gaś 1999, p. 11.

A key role in the process of creating conditions for development is played by the teacher: his/her skills and personality. In the educational relationship with the pupil, the teacher-educator, using his/her individual traits and certain skills, creates conditions through which the pupil can actualise his/her developmental potential. This happens in an atmosphere of safety, trust, and respect (Gaś 1999). The aim of a relationship supportive to development is to help develop the skills to cope with difficult life situations independently and therefore - ultimately - to be self-sufficient. A child who experiences conditions conducive to development, freedom, and encouragement to actualise their own potential will act in a constructive manner (Gaś 1999).

As far as the qualities of the teacher are concerned, it is important that he/she presents real and authentic traits, attitudes, and values in his/her relationship with the pupil - he/she does not pretend to be anyone for the purpose of educational work. Taking this into account, among the teacher's skills conducive to creating conditions for development, the most important are these skills that facilitate understanding the student and creating an atmosphere of psychological safety. As a result, the student begins to trust their emotions, experiences and strengths, to respect themselves and other people and to feel. In addition, he/she has the opportunity to experience freedom in terms of the choices he/she makes, as well as responsibility for their consequences (Kwiatkowska 2011). The amount and intensity of emotional experiences of highly sensitive pupils require an adequate response from the adult carer. These skills give pupils the chance to accept their own experiences, to trust them and to act with awareness of them. Adequate conditions provide opportunities for constructive change and development. In the case of highly sensitive pupils, they serve both the pupil and his/her environment.

Among the personal qualities that determine the effectiveness of a teacher, Gaś (1999) mentions awareness of themselves and their value system, experiencing and displaying

emotions and feelings, providing the pupil with models of attitudes and behaviour, interest in people and social issues, clear ethical principles, and sense of responsibility.

Table 2.1 Personal traits of the educator

Traits	Characteristics
Awareness of yourself and your value system	Knowing oneself is the basis for self-confidence and makes it possible to enter into a relationship honestly and authentically with the pupil and to be open to their behaviour, respecting their right to freedom.
Experiencing and displaying emotions and feelings	Awareness of the feelings experienced by the teacher determines the safe communication of these feelings to the pupil. It also prevents the appearance of a projection mechanism.
Providing the pupil with models of attitudes and behaviour	The provision of patterns takes place consciously or unconsciously, independent of the teacher's intentions. The teacher should become a model of constructive behaviour and healthy, satisfying functioning for the student. They, therefore, have a duty to ensure that their personal, professional, and social life is satisfying, which further prevents the phenomenon of compensating for personal difficulties and shortcomings in their relationship with the pupil.
Interest in people and social issues	It is important to find altruistic and pro-social elements in one's professional activities, as well as to accumulate experience and knowledge of the mechanisms of human functioning.
Clear ethical principles	It is important to be as clear as possible about one's own moral standards, the principles of social life and professional standards.
Sense of responsibility	Responsibility for both own actions and those of the student, appropriate to the student's level of autonomy.

Source: Gaś 2006.

The teacher's activities aimed at deepening self-awareness increase his or her knowledge of human behaviour and therefore the ability to understand the pupil. The teacher is aware that a highly sensitive child experiences a range of emotions, and the intensity of these emotions is often challenging in school and pre-school situations. Being able to recognise your own emotions allows you to deal with your child's emotions in a better way. This way there is no need to attribute your own unconscious emotions to the pupil, e.g., shaming the pupil or comparing his/her behaviour to other children.

The teacher should also remember that he or she is a role model for the pupil on how to express themselves and their feelings constructively. The pattern of self-regulation is particularly important for highly sensitive children.

In terms of specific teacher skills that condition the creation of a supportive relationship, Gaś (2006) mentions the ability to understand the learner and to show the understanding to them, the ability to ensure the safety of the pupil in difficult situations, the ability to foster positive action and behavioural change (Table 2.2).

Table 2.2 Professional skills of the educator

Skill	Characteristics
The ability to understand the learner and to show the understanding to them	Listening, guiding, reflecting, summarising, confronting, interpreting, informing.
The ability to ensure the safety of the pupil in difficult situations	Providing comfort and handling the crisis: supporting, intervening, focusing, guiding
The ability to foster positive action and behavioural change	Problem solving, decision making, behaviour modification

Source: Gaś 2006.

The teacher does not avoid difficult situations but is careful to ensure that the difficulty is appropriate to the age and ability. Each of the skills listed is particularly beneficial in the context of working with a highly sensitive child who experiences crises more often than their peers. The use of verbal response skills is beneficial in the adaptation process (when the highly sensitive child is going through an intense crisis of change and separation) or during challenging situations (for the highly sensitive child these are e.g., teacher substitution, classroom change, school trip). Skills in active listening, guiding, reflecting the child's feelings, informing foster preparation for constructive change.

A teacher who possesses the above-mentioned personal qualities as well as professional skills will be able to create an environment conducive to development. Gaś (2006) lists six basic conditions like understanding and acceptance, sense of affectionate bonds with the educator, openness in mutual relations, mutual respect between educator and pupil, awareness of boundaries in life and development and sharing responsibility for achieving change in the education process.

Table 2.3 Conditions conducive to student development

Conditions	Characteristics
The learner's experience of understanding and acceptance	The main way of understanding the pupil is through the teacher's empathy. It consists in the educator seeing the world as the student sees it but at the same time not losing his own identity and objectivity. This condition fosters in children a sense of acceptance and a belief that the teacher understands them.
Sense of affectionate bonds with the educator	It relates directly to the quality of the relationship built between student and teacher and its emotional colouring. This condition promotes the child's experience of a sense of belonging, experiencing warmth and caring.
Openness in mutual relations	Encouraging the student to openly express their thoughts and feelings. For this to be possible, the child must experience openness on the part of the teacher. He then has the chance to find out what the teacher's attitude is to himself, to the pupil, to other people and to the world. These are elements of building mental resilience.
Mutual respect between educator and pupil	It includes an attitude of deep interest in the student but also respect for his/her individuality and value as a person. This allows the pupil the freedom to be themselves, to develop a sense of freedom and responsibility for their own choices and behaviour.

Awareness of boundaries in life and development	Setting specific boundaries helps to protect the pupil from actions that are dangerous for them. Lack of boundaries in parenting is destructive for both the child and the educator. It makes it difficult for the child to develop self-control and build up responsibility, while it makes it impossible for the adult to cooperate in achieving the goals of education.
Sharing responsibility for achieving change in the education process	Defining the responsibilities of the teacher and the pupil will enable the former to protect himself against manipulation and violence in education, and the latter to participate consciously in the process of his own development and the acquisition of responsibility for his life as a whole.

Source: Gaś 2006.

Considering the characteristics of the functioning of highly sensitive children, it should be emphasised that these children can benefit most from a humanistic approach in upbringing. The great popularity of the behavioural approach - as an effective one in the upbringing process - may cause that by concentrating on effective methods we forget the importance of the conditions needed for proper development. Warmth expressed in the form of smiles, eye contact and gestures will be particularly important and uplifting for a highly sensitive child, who will be able to spread their wings. The experience of caring understood as a sense of deep, genuine interest in the child, helps the child to experience how important he/she is and to build adequate self-esteem. These are conditions where the pupil develops, in a natural way, an interest in other people's well-being, a respect for other people's individuality and the protection of their own boundaries, their own personal dignity and the dignity of another person. When dealing with a highly sensitive child, there is often a temptation for the adult carer to 'protect' the child from experiencing difficult situations. However, every child (no matter how sensitive) deserves to know the boundaries that apply to him and the consequences of crossing them, to understand the rules that apply in his personal life and in social relations, to be able to relate the rules to the values that should guide them in life. Seeing the world as the child experiences it is also about showing that understanding to the child in a constructive way. "Entering the world" of the highly sensitive child must be done without losing own identity and objectivity. It is not a matter of crying with the child or worrying with him/her, but of creating the conditions in which he/she can face the difficulty he/she is experiencing and have the chance to deal with it himself/herself.

In conclusion, in the relationship between the teacher educator and the pupil, the teacher's deep conviction that the child has the capacity to develop, to gradually take control of his/her own life, to take responsibility for his/her own development and, above all, the child is willing to develop (Brammer 1984) is extremely important. In other words, the teacher believes, and has the conviction, that his or her pupil can manage on their own, is not inferior, weaker, prone to injury, and should therefore be protected or even catered for. He knows that vulnerability does not deprive a child of the natural desire to develop and, moreover, that he deserves to be independent just

like other children. This attitude is followed by the belief that the child will “make it in life” even under difficult circumstances.

Working with a highly sensitive child is like working with porcelain. If you have worked mainly “in metal” all your life, you have methods and tools for working with it. The porcelain will crumble if the same methods are applied. You can take offence at porcelain, blame it for being fragile, compare it to metal or change methods. Perhaps the example seems to objectify the child in the context of personal contact (the child is not the material to be processed) but this analogy gives an idea of the efficacy of the methods used.

SUPPORTING HIGHLY SENSITIVE CHILDREN IN THE CONTEXT OF THE FUNCTIONS FULFILLED BY PRE-SCHOOL AND EARLY CHILDHOOD EDUCATION - GUIDELINES FOR WORK

Another approach to illustrate the needs of a sensitive child is to show them in the context of functions that are fulfilled by pre-school and early childhood education. Pre-school education realises numerous interrelated functions. A highly sensitive child is a demanding recipient of didactic and educational interventions. It is particularly important to observe to what extent these objectives can be realised in relation to a highly sensitive child.

Care and health function vs a sense of security of a highly sensitive child

This is the basic function of pre-school and early childhood education, which is expressed in direct care of the child, providing appropriate material and safety conditions conducive to the satisfaction of his/her needs. It becomes particularly relevant in relation to a highly sensitive child. The child's sense of security appears to be less stable and requires more interventions on the part of parents and teachers than in the case of peers. An emergence of a new situation or a change in an already familiar situation can significantly disturb the child. In addition, the presence of other people is not insignificant for a highly sensitive child. Performing an activity in front of the close ones (parents, trusted friends) does not bring about severe stress. Yet, the same activity performed in front of a different audience - unfamiliar, assessing persons will cause intense stress. An attentive teacher is able to immediately pick up warning signals. Withdrawal from activities, isolation, perceived tension are usually signals that the situation is beyond the child's control, causing his/her discomfort.

Note that a highly sensitive child's sense of security can be very fragile and can be disturbed when least expected. When supporting a highly sensitive child, try:

- To be attentive, carefully observe the child's behaviour and record any changes in his/her behaviour, as they may signal that something has just upset the child. It is not necessary to respond to all signals - it is crucial to notice, note them, occasionally inform the child that we are aware of the situation.

- In case of planned changes in working with the children, to introduce them gradually and announce several times.
- To be careful with surprises. It is a fairly common belief that children like surprises, yet they often make highly sensitive children uneasy.
- To recognise what gives a child a sense of security and then try to ensure it. If a stay in a new place is easier with a favourite toy, let the child have one.
- To present a timetable to the children. Highly sensitive children feel more secure when they know what is going to happen and in what order.
- To patiently answer questions posed by the child, even if they seem burdensome. This is probably caused by the fact that a child seeks to understand the situation that is causing his/her anxiety.
- To make the child acquainted with new things at his/her own pace. With an attentive and caring attitude of a teacher, the child signals that he/she is ready for the next step.
- To respect the emotions that accompany the child's confusion and do not push at all costs to overcome fear or shyness.
- Not to abandon any challenges faced by sensitive children. Sensitivity does not exclude courage.

Stimulation function vs fatigue of a highly sensitive child

The stimulation function is a function that is carried out primarily by directing development in conditions that foster the growth of the child's potential capabilities and talents. The stimulation of development as a basis for all educational activities does not raise any doubts. However, in relation to highly sensitive children, the implementation of this function requires caution. Due to specific susceptibility of highly sensitive children's nervous system to overload, also referred to as overstimulation, in some situations it is advisable to discontinue stimulation rather than to intensify it.

When supporting a highly sensitive child, try:

- To raise interest of the child and remain responsive to the child's interest, yet, the child must not be overburdened with commitments. A highly sensitive child frequently demonstrates a deep insight within his/her area of interest. Unfortunately, the children are likely to accept too many commitments;
- To observe the child and suggest a rest or a change if the involvement exhausts or makes him/her feel uncomfortable;
- Not to force an activity that clearly strains a highly sensitive child due to a large number of stimuli, such as noise, light, people;
- To create a space for relaxation. Allow the child not to be involved in an activity if unnecessary;
- To accept withdrawal from activities that overload the child;
- To understand that what makes other children very happy may not necessarily make a highly sensitive child happy;

- To satisfy the child's needs as much as possible on a current basis to avoid frustration. Prolonged frustration of a need (especially in younger children) can manifest itself as outbursts of anger, crying or defiance.

Stimulation function vs individuality of a highly sensitive child

One of the important functions of education is a differentiation function. Through opportunities to educate people in different schools and at different levels, diverse personalities are formed. There are people educated in different areas, specialists for different jobs and positions. It has key implications for the thinking and practical activities of pedagogues, teachers and educators. The starting point is, therefore, an assumption that the aim of education is not to increase similarity and uniformity among personal qualities and behaviours of pupils, but to promote individuality and openness to diversity. A highly sensitive child is particularly vulnerable to experiencing his/her "otherness" and rejection by peers because of other preferences for games, tastes, or unshared reactions to situations. Do not try to make children conform to a particular pattern, or to each other. When supporting a highly sensitive child, try:

- To allow children to manifest diversity. Understanding that not everyone is the same will reduce the risk of fear of being judged by others in a highly sensitive child.
- To respect even the most surprising children's reactions. Behind every such reaction, there is an important cause, so it is advisable to find it.
- To give children the right to refuse; allow them to refrain from playing, refuse to eat, etc. without judging these behaviours;
- To understand what children's different behaviours and difficulties in various situations stem from; Discuss these situations.
- To develop in children an openness to embrace diversity and avoid judgements of others.

Constructive function vs creativity of a highly sensitive child

It is expressed in stimulating development, enhancing creativity and ingenuity, strengthening initiative and proactivity. Highly sensitive children have an enormous potential for creativity and initiative. Unfortunately, often due to a blocking fear of being judged, of failure, of being ridiculed, they do not reveal their abilities.

Note that a highly sensitive child needs acceptance to become creative and to take an initiative. When supporting a highly sensitive child, try:

- To encourage children to express freely on topics important to them as often as possible;
- Not to judge statements in which the child presents his/her feelings, thoughts, doubts;
- To lead by example - talk about yourself, your experiences and ways of coping;
- To reward an initiative in various forms, proposals, commitment;

- To allow the child to realise his/her ideas, even if you do not feel convinced by them;
- Not to be discouraged even though the idea seems unrealistic.
- To praise - in every learning situation find something to praise;
- To remain extremely careful in using negative messages, knowing that a highly sensitive child may relate them all to himself/herself, thinking that he/she is a failure.

Compensatory function vs self-assessment of a highly sensitive child

The compensatory function is realised through educational activities aimed at strengthening the child's development and activity, equipping the child with specific skills and self-confidence (Lubowiecka 2006). If a child is not raised in an environment that sufficiently cares for his/her development, he/she should find a chance to compensate for family negligence in a kindergarten or at school (Szymańczak 2010, p.125).

Fundamentally, a highly sensitive child is not a deficit child. On the contrary, the child has a high potential. However, due to a specific way of perceiving reality and highly individualised reactions, he/she is perceived as difficult by teachers in the educational system. Thus, the child is expected by teachers to make an effort to reveal, activate and nurture the hidden assets. The teacher's messages are received with increased force by a highly sensitive child. This applies both to positive and negative messages. One should bear in mind that a negative message - a punishment, a negative comment on the part of the teacher, immediately triggers the child to underestimate himself / herself, as someone inferior to others, deserving criticism. Due to relatively trivial situations, the child's self-esteem can be lowered. Similarly, even a small praise, a positive message, a smile from a teacher, is extremely powerful with regard to a highly sensitive child, as it builds positive self-esteem, raises aspirations, and spurs into action.

Note that a highly sensitive child is not a dysfunctional child. The child simply experiences the world in a different manner. When supporting a highly sensitive child, try:

- To understand that a highly sensitive child's behaviour does not stem from pampering or mischief, but from the way he/she experiences the world.
- Not to regard a highly sensitive child as difficult, deficient, dysfunctional nor treat him/her as a child requiring special interventions and therapy;
- Not to force compliance, as this usually has an opposite result.
- To allow a highly sensitive child to discover an important area (an interest, a section within a subject, a function in the classroom), in which he/she will be engaged and feel comfortable;
- To accept minor eccentricity of a highly sensitive child, e.g. a preference for one type of food or a strong reaction to sounds or smells;
- To make a highly sensitive child aware of the motives behind other children's behaviour and a perception of his/her behaviour by peers;
- To find an individual "key" to a highly sensitive child, i.e. to discover effective methods of working with him/her that will result in noticeable improvement in his/her comfort, and in unveiling his/ her potential.

Didactic function vs perfectionism of a highly sensitive child

The didactic function is realised by providing children with a certain amount of knowledge, skills, habits, preparing his/her for a role of a student in pre-school education and perfecting this role in early childhood education. A highly sensitive child has the potential of becoming a „good learner”, however inappropriate attitudes of teachers and adaptation of inadequate working methods prevent these assets from surfacing and developing. A strong need to be noticed and accepted by the teacher is frequently unfulfilled. Ultimately, it leads to student passivity and loss of motivation to learn. An ambition of highly sensitive children is frequently coupled with a tendency to perfectionism, i.e. to live up as much as possible to the real or imagined standards which they themselves have set. Adaptation of teaching methods is an important requirement for teachers of highly sensitive children.

Note that a highly sensitive child wishes to be perfect and wants to be reassured about it. When supporting a highly sensitive child, try:

- Not to reinforce the child's perfectionism. Show that valuable does not mean perfect, and that ordinary and mediocre is also worth appreciating;
- To appreciate the child's love of order, regularity, planning;
- When evaluating the child's work in pre-school classes or school lessons, to evaluate not only the correctness and absence of errors; also appreciate other dimensions than just appropriate reproduction of the taught content;
- To strengthen the child's ability to “let go” if you see that he/she is setting too many challenges and achieves them at great cost;
- To attract the child's attention on the pleasure of doing something (the so-called “flow”) and the satisfaction derived from it instead of focusing on evaluating the result of his/her work.

Socialisation function vs empathy and “loneliness” of a highly sensitive child

The socialisation function is understood as development of the ability to function socially in a wider environment than just within one's own family. The child's acquisition of important skills related to establishing, maintaining, and developing relationships with others makes educational environments friendly and close to the child. The difficulties of a highly sensitive child in this area are primarily related to high empathy, a strong need for approval in relationships and a need for solitude.

High empathy puts a great strain on a child empathising with the experiences of another person. It then carries the burden of the experiences of others. A large number of highly sensitive children have difficulty withdrawing empathy, reducing an ‘insight’. The sufferings and experiences of another child, of other people stay with him/her over a long period of time. They become a topic of conversations, come back in the form of images, trigger fears, for example of illness, death, failure, etc.

A strong need for approval carries the risk of seeking acceptance and acceptance into a group “at any cost”. Then, there occurs the danger of the child being abused by the group. The child seeking to be accepted by the group is ready to give up his/her needs to meet the expectations of others and to deserve acceptance. The teacher should be particularly sensitive to manifestations of this kind of phenomena.

The tendency towards loneliness characteristic of highly sensitive children can be considered as a potential barrier to socialisation. It manifests itself in a desire for solitude, a need for rest from the group and activity. This may be mistakenly perceived by those around as rejecting peers, demonstrating superiority, or losing interest in others. However, it does not result from a negative attitude towards a game itself or the children involved. Emotional and cognitive overload due to the specificity of the child’s reception and processing of information stimuli are to blame. Becoming tired of playing and wanting to get away from a noisy place is natural for a highly sensitive child. Bustling school corridors, noisy games, activities in the school common room are heavy burdens for a majority of highly sensitive children.

Note that highly sensitive children need solitude, yet they are not loners, seeking close and deep relationships. When supporting a highly sensitive child, try:

- Not to expect a highly sensitive child to have extensive contacts and freedom in a peer group. Highly sensitive children are more likely to prefer contact with one or two close people with whom they feel comfortable;
- To teach mature relationships based on reciprocity that will protect the child from manipulation and exploitation by others;
- To protect the child’s empathy; the contents used in teaching must be carefully selected; avoid information that may strongly affect a highly sensitive child;
- To accept the need for solitude in a highly sensitive child; allow the child to withdraw from an activity at any time;
- Not force contact with children with whom the child does not spontaneously make contact. Coercion exacerbates stress in the child and increases relationship tension.
- Gently handle the child’s hurting. Highly sensitive children experience relationship failures deeply and analyse hurtful situations at length.

Effective support for a highly sensitive child is possible only when the educator assumes that high sensitivity is not a deficit. On the contrary, it is a potential that reveals itself under optimal conditions and enables the child to develop freely. Educational interactions should consider the specificity of the child’s perception of his surroundings / environment and reacting to them. In this perspective, a highly sensitive child is a challenge for the educator, because it also requires him/her to change the existing habits of reacting and develop new ways of supporting the child.

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PART III

EDUCATION AND SUPPORT OF PARENTS OF HIGHLY SENSITIVE CHILDREN

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Abstract

The aim of this part is to design actions to support highly sensitive children in their immediate environment. Part 3 is aimed at the parents providing them with insights and information so they can understand high sensitivity and help their highly sensitive child thrive. Activities and tools to support and understand highly sensitive children are presented and discussed.

Key words: *parents support, expressions of high sensitivity, emotional impact, emotional basic needs, parenting the highly sensitive child, non-optimal parenting style, activities*

Because high sensitivity is a hidden trait, which has more to do with how our nervous system is functioning, it can be sometimes difficult to assess, and read from outside. This can easily happen in the case of highly sensitive children. Only the parents' attention to details can uncover this trait when is specific to their children. Researchers found that mothers' acceptance (i.e., support) was positively related to self-esteem. Feelings of inadequacy and a lack of positive self-esteem can result from the parent's attempts to control the thoughts, feelings, and the activities normally considered to be the youth's domain (Bean et al., 2003).

Highly sensitive children develop and benefit from the positive effects of a supportive and empathetic environment, with much lower probabilities of developing anxiety and depression (Aron, 2010). In contrast, in aversive environments, where there is aggression, lack of acceptance and lack of support or neglect of emotional needs, these children are more prone to affective and behavioural disorders, compared to the majority who do not have the high sensitivity trait (Aron, 2010).

WHAT WE CAN NOTICE AS PARENTS OF HIGHLY SENSITIVE CHILDREN

The highly sensitive child is more sensitive to stimuli, and this means that he/she can have more complaints about clothes' textures and tags, smells, sounds, loud voices, food textures and tastes. Also, he/she can easily react to the moods of others, and to the emotional atmosphere of their close environment. Sometimes the highly sensitive child can appear as shy or fearful in new situations and around new people, but only because his/her nervous system needs time to evaluate the inputs from the environment to feel safe.

Due to this great responsive capacity of their nervous system to different kinds of stimulation, the highly sensitive children can become very easily overstimulated and overwhelmed. This is the moment when they can become fussy, have fits of anger or crying, or they withdraw completely. These are the behaviours that generate difficulty for parenting, but only because they are not understood as effects of overstimulation of the children's specific nervous system.

Highly sensitivity child¹: loves harmony, does not like to stand out in the group, does not like to argue and will do much to probably prevent it, worries easily, likes to retire from time to time, can play well alone, sensitive to atmosphere, sensitive to physical stimuli, preferably avoids unpleasant stimuli, but also needs stimulation, usually controlled and careful, is a real thinker, very present, can't stand injustice, strong-willed, can't process too many stimuli and regularly go over their own boundaries, some are real doers and love challenges.

THINGS THAT CAN HAVE A GREAT EMOTIONAL IMPACT ON HSCS

Sensitive children seem to be more easily attuned to others' emotions and some things have a great emotional impact on them.

- **Injustice.** The sense of justice of a highly sensitive child is great. When something is unfair, even when it concerns someone else, he acts. But if he is dismissed, he feels unheard and not understood, and flares up in anger.
- **Watching movies.** They thoroughly enjoy the story and can fully empathize with the characters. But that loud noise and the bright lights of the commercials are overwhelming. HSC prefers to sit at home on the couch close to mum or dad.
- **Tension inside the family.** All HSC sense the emotional atmosphere. For example, if there is tension between mom and dad or between grandpa and aunt, they feel it immediately. Sometimes they try to do their best to make it cosy, but they may also have different reactions because they don't know what to do with that heavy atmosphere.

¹ Some of the examples come from focus groups (FGI) conducted in the group of parents of highly sensitive children.

- **Grief from others.** A friend's grief hurts them. They worry about the classmate whose mother is ill. They experience it so intensely that it seems to be their own grief.
- **A school trip.** Everything is different that day. Eating the fruit on the bus, the singing, children who are constantly pushing at you and nobody seems to hear the teacher when she calls out for us to come... Processing all these new stimuli takes a lot of time. Only towards the end of the day, when the return trip is almost starting, HSCs seem to relax and enjoy themselves a bit.
- **Other's attention.** Do something while everyone is watching you? Rather not. They don't even like getting compliments in class. What will everyone think? Real attention from a parent is, of course, a different story. They never get enough of that.
- **False people.** What do you do when someone is very happy, but clearly is very sad? Or if someone is very nice, but you notice that he doesn't like you that much. These conflicting signals are confusing for an HSC. For them, the implicit signals come in just as clearly. And they don't know how to respond. It may even be a reason not to shake hands with someone.
- **Programs with (animal) violence.** Knowingly hurting someone or neglecting an animal are deadly sins in the eyes of a highly sensitive child. He does not want to see programs in which that is 'normal'. The pain of those people or animals can enter him so intensely that if he has seen it, he is upset for days.
- **Take tests.** In a test, the teacher will look at what you can do. That assessment moment leads to stress for many HSCs. In addition, the questions are often unclear. Sometimes the answer seems so easy that he doubts its correctness. With his creative mind, he can also come up with reasoning for a different answer. Based on the idea that a test is probably difficult, he opts for the answer with the complicated reasoning. If that then turns out to be wrong, self-confidence goes down and the fear of testing further increases.
- **Have to make a decision right away.** "What do you want on your bread?" Is one of the most dreaded questions, because mom or dad expects an immediate answer. Making a choice is difficult because there are so many consequences. *Chocolate sprinkles spill quickly, peanut butter sticks in your mouth, cheese has a nasty aftertaste, and the jam has seeds. But if I now choose chocolate spread, I am no longer allowed to do that with lunch.* Before all these aspects have been weighed up, mom reminds us again of the question, which increases irritation and makes making a choice even more difficult.
- **Friends who act mean.** When you are friends, you are sweet, honest, and nice to each other. So, if a friend does something mean, suddenly doesn't want to play, tells you something, or doesn't want to sit next to you, it's not a friend. No matter how social HSCs they are, if a line is crossed, the friendship will no longer work out.
- **Go to sleep without a good night kiss.** Family harmony is extremely important for highly sensitive children. The questions and concerns arise especially in bed; "do they still think I'm sweet?" In the dark of the bedroom, the confirmation of mom and dad is extra important. Only then will HSCs feel safe and can they go to sleep peacefully.

If they don't develop the tools to manage the emotional impact resulting from the above mentioned situation, , there's the risk that they could turn to other behaviours and less healthy coping strategies

EMOTIONAL BASIC NEEDS OF THE HIGHLY SENSITIVE CHILDREN

Even if the main needs don't differ from the ones of non-highly sensitive children², for HSC the attunement and meeting of emotional needs have a great impact on their healthy development.

As a first step in the process of psychological development of anyone, the phase of attachment and anchoring, in which nutrition, care and safety are provided by the primary attachment relationship, is very important. But even if the majority of people can adapt to the deficiencies of this phase, the need of a strong secure base is vital for the highly sensitive children. Having a highly responsive nervous system means that every new situation, new or intense stimuli, or interaction is activating the limbic part of the brain preparing the system to get into an alert mode, or stress mode to face the situation. The only way a highly aroused nervous system can calm down is through the reassuring and attuned presence of another being, and in the case of children, through the loving presence of the parent.

The quality of this primary relationship with the caregiver is the essence of how healthy the development of the child will be. If the child feels the support and emotional connection with the adult, it will be easier for him to live a strong sense of safety that can allow him to learn how to calm down and not worry in the face of new challenges. If the child feels left alone with his own inner stress reactions to different stimuli, he learns that he needs to be attentive and stay alert all the time in order to feel safe. This will be energy consuming in time and will make the child to have troubles learning how to trust, and to relax.

Without a strong sense of safety from an attachment relationship, there will be difficulties at the phase of exploration and self-centeredness, where separation and learning are very important.

Another important basic need of HSCs is to feel that their emotions are validated and accepted. Highly sensitive children have intense feelings and are wired to fully experience the entire spectrum of human emotion. They therefore feel the emotions more strongly than children without this characteristic. That means that when they are happy, they are really happy and can feel this in their whole body, but that when they are angry or sad it looks to us as if the world is ending.

When we acknowledge their feelings and give them permission to experience their emotions without being told they're bad, or that they should not feel the way they do, HSCs can learn to trust themselves and cope better with the difficult ones, like anger or sadness.

² Generally, a feature has a specific distribution in society, but research often uses the term non-highly sensitive – for people who are not characterized by a high level of sensitivity processing sensitivity.

Because of their highly tuned nervous system to the feelings of others, HSCs have a pretty strong empathy, a capacity that we, as parents, need to protect and not overwhelm or exploit, through emotional blackmail or exposing the child to the pain or suffering of others.

HSCs, whether they are introverts or extroverts, will need alone time after stimulating activities like attending birthday parties or play dates. Even just a normal day at school — with all its noise, activity, and socializing — can be fatiguing and overwhelming for them. That's why the parents need to respect, and protect their space, and also to teach HSCs to ask for alone time proactively. That way, it won't come in the form of a meltdown later.

HSPs are highly intuitive and can naturally sense subtleties. Unfortunately, our conditioning moves us away from listening to what our bodies intuitively tell us, so we may lose this connection as we get older. That's why we should teach sensitive children to notice how their body feels, for example, when they eat a certain food or hang out with a certain friend. Being in contact with your own body helps you learn and respect your boundaries.

HSCs may require extra time to process information. According to Dr. Elaine Aron one of the four characteristics of all highly sensitive people is “depth of processing”. This means that when HSCs receive information, they think about it deeply, analysing the issue from many different angles and connecting it to a larger picture. Depth of processing can make life richer for HSC, but it can also slow them down. And living in a fast-paced world where we are appreciated by the rapidity by which we move and think, simply being patient and allowing the highly sensitive child extra time to process the information honours this special gift of deepness.

Because the highly sensitive brain has a deep way of processing any information, it is important to offer the child the proper amount of stimulation in order to channel his attention and mental energy towards things and activities that support their development, and not become stuck on obsessing on different useless details of things from around.

PARENTING THE HIGHLY SENSITIVE CHILD

Parents of highly sensitive children often feel somewhat lost because there is little understanding of this trait from society, school, or other parents. They sometimes don't know how to respond to their child's specific behaviour.

Highly sensitive children react more intensely to events than the average child. They enjoy beautiful things to the full but are also inconsolable or furious about things they don't like. The standard parenting methods do not work for them. A rebuke in a loud voice upsets them. A punishment can have a great impact on them for days.

Usually, the main focus in parenting a highly sensitive child should be to sustain the prevention of the emotional and mental overwhelm, and to give the highly sensitive brain the opportunity to process all the acquired stimuli at its own pace.

We can distinguish three main parenting styles:

- The authoritarian (authoritarian) parenting style³ is characterized by many rules. The parent decides what happens and the child must obey. The rules are not explained, they just have to be followed. If the child does not listen, punishment will follow. There is no room for discussion or compromise.
- In the permissive (indulgent) parenting style, the parents pay a lot of attention to the wishes and needs of their child. So much so that the child always gets his way, rules are not consistently enforced, and misbehaviour is ignored. There are few boundaries and rules in this parenting style.
- The third parenting style is called the democratic (authoritative). In doing so, the parents set boundaries and they have an eye for the wishes and needs of their child. The rules are explained so that the child understands why to stick to them. In case of misconduct, the rules are enforced, but the parent also talks to the child about the situation. The parents pay attention to the emotions and experiences of the child.

The authoritarian and indulgent styles are seen as non-optimal parenting styles. In the authoritarian style, children are more likely to develop low self-esteem and aggressive behaviour, while children who grow up in a mainly permissive style are more likely to be impulsive and have poorer social skills.

A study by Lionetti (2019) shows that the indulgent parenting style has many negative consequences for highly sensitive children. If their parents apply that style a lot, highly sensitive children have more externalizing behavioural problems, such as aggressive behaviour or disregarding the rules. Highly sensitive children who hardly have to deal with this parenting style have much less behavioural problems. The degree of externalizing behavioural problems is then lower than in the average children.

The permissive style also leads to more internalizing behaviour in highly sensitive children, such as anxiety or depression complaints, withdrawal, or physical complaints. This happens especially because the HSCs need the safety of clear boundaries that can contain and protect like an emotional cocoon their over-receptive and attuned way of being. In non-highly sensitive children, applying this permissive style more or less has no effect on their behaviour.

Too strict an approach can upset highly sensitive children, but this research shows that an indulgent approach has many more negative effects. The average child experiences little effect, but highly sensitive children develop both more externalizing and internalizing behavioural problems. Thus, the indulgent style is best used as little as possible for these children.

The democratic style has a positive effect. Highly sensitive children become more socially competent. This style is characterized by listening to the needs of the child

³ The parenting styles commonly used in psychology today are developed from the work of Diana Baumrind, a developmental psychologist at the University of California at Berkeley, in the 1960s. The theory is based on extensive research of the correlation between the type of the parenting style and children's behaviour, as different parenting styles can lead to different child development and child outcomes.

and responding to them, but at the same time setting clear rules and, above all, explaining them. Your child therefore knows what you expect from him and why. In addition, it feels known in its emotions and needs.

A SPECIFIC METHOD FOR PARENTING HIGHLY SENSITIVE CHILDREN

Esther Bergsma, a Dutch counsellor specialized in high sensitivity developed the BABA method to support parents in the education of their highly sensitive child. In this method, mentioned in her book “Hoogsensitieve kinderen” (2016), has been created a balance between understanding and limiting, the main aspects of the democratic style parenting.

Understand the background of your child’s behavior. Parent’s understanding helps the child to get out of the complex feelings that are gripping him. In particular, the powerlessness and the feeling of guilt are neutralized when you say that you understand that the child is angry. Physically it causes the stress hormones to drop. This prevents further escalation. On an emotional level, understanding creates connection. This helps correcting (in step 3). Finally, the ‘understanding’ step also helps the child to understand himself. Highly sensitive children often have strong emotions that they do not always understand themselves. Children who understand their emotions feel more in control of their lives. That helps prevent overstimulation.

Accept that your child’s feelings are there. Your child can be angry. Only the way he or she expresses can be sometimes not acceptable. Your child learns from this validation that his feelings are not bad. If your child concludes that certain feelings should not be there, they may judge themselves if they do feel them. He may think it is ‘bad’ and become ashamed of him. The emotion of shame is harmful because it makes you passive and gives you a feeling of inferiority. You can avoid shame for oneself by accepting your child’s feelings. In this way he also learns to accept himself. Moreover, this influences his critical inner voice, that becomes somewhat less.

Limit. The child needs to know what behaviour is not acceptable. Setting boundaries makes every child feel safe. Clearly state what the rules are. Pay close attention to your wording. “Be normal” is not a clear instruction. A child does not know what you mean by that and that makes the feeling of helplessness worse. State the rule without raising your voice. Loud or angry voices reinforce the emotions and often lead to overstimulation. Always introduce new rules with an explanation. Why is this important? If your child asks, explain it further, it is important for him to understand the rule.

Alternatives. Discuss with your child what they can do next time they feel angry or frustrated. By regularly stimulating this you increase self-reliance. This last step is very important in breaking patterns. The moment a child is overstimulated, he can no longer think consciously, and your instructions will hardly come in. By discussing alternatives every time, it still gets the opportunity to change. The ability to solve problems himself will be of great benefit to him in later life.

In practice, it appears that highly sensitive children experience more peace through this approach and are less likely to become over-stimulated or resist. The interaction between parents and children improves, making it a lot more fun at home, without compromising on a good upbringing. This method helps you, as a parent, to stay in touch with your child and to set clear boundaries. But more importantly: it helps your child develop skills to survive in this overwhelming world.

Highly sensitive children may not be proud of what they achieve and often think that they could have done better. Highly sensitive children can hardly cope with failure. They may constantly compare themselves to their peers in a negative way. It is then critical:

- Show your child lots of love and be positive about them as a person – tell them what makes them special to you.
- Remember your child's strengths — such as creativity, perceptiveness, and keen intellect.
- They notice things that others miss. Even as a child, they may have been wise beyond their years.
- Highly sensitive children should be taught how to discuss about their trait in a positive way.

Sensitivity is typical of creative artists, innovators and children who are talented in various ways. They have an exuberant and lavish inner life. They have inventive imaginations, and they recall memories in detail. Also, they notice more sensory detail. They are deeply moved by the arts and music. HSCs tend to be empathetic, intuitive, and highly aware of the needs of others.

Using creativity in the development of HSC has many advantages: developing the abilities to express desires and feelings (verbal and nonverbal), self-respect and self-confidence, personal strategies for solving problems and intra- and inter-personal conflicts, improving the capacity for self-knowledge and self-acceptance, development of moral and spiritual values, development of cognitive abilities (memory, attention, language etc.) and creativity, releasing tension, anxiety, stress, frustration and negative feelings.

RECOMMENDED ACTIVITIES FOR HIGHLY SENSITIVE CHILDREN

We can use different types of activities and tools to support and understand highly sensitive children; we can also help them cope, as parents, with the differences they may be experiencing when it comes to everyday life as opposed to non-highly sensitive children. Make sure you take the time to engage in play and other activities, as engagement is one of the key assets in making highly sensitive children feel secure and comfortable. Here are some activities that may help both of you enjoy the time spent together as well as building a strong and secure relationship.

Drawing and painting: drawing is one of the key methods to help the child express himself. Whether it is chalk drawing on the sidewalk, painting, colouring, charcoal or simply sketching, all of these help the child express his feelings, thoughts, moods, and sensorial experiences even though, at times, it may not make much sense for us, adults (on a rational level). Any type of free drawing is a way to explore and connect with what is happening within the child, it is also a way to be more aware of one's identity as it develops itself. Connecting through art is also a way to build strong and authentic communication, as both parties (the parent and the child) should talk about their drawings and how they felt while engaging in this process, afterwards. You can also create a story with your child related to the drawing and, by this time, you may notice that he processes emotions and feelings from everyday life by simply expressing them through their art. If they are not able to create a story, do not insist on it: the drawing itself is a way for children to make sense of some of the things they may be experiencing, a symbolic language not restrained by usual semantics. Also, do not over-analyse the child's drawings at all time: they usually bring up his evolution in time as well as helping him express old and new sensations, feelings and thoughts.

Play-Doh or other clay activities: your child can also tell a story through Play-Doh as well, verbal, or non-verbal. The experience is tactile and kinaesthetic, and while children are engaged in it, they may find it easier to express their feelings or emotions. Usually, children who have a hard time exploring their emotions are also not very fond of exploring the world through all their senses, even though it's a natural process. Some may fear or dislike getting dirty (making a quick association between clay and dirt) which is a sign of an emotional imbalance as children usually do not care as much if they are dirty unless parents insist often upon them staying clean. Therefore, clay and other moulding activities can and should be used as a form of self-expression and exploring thoughts and feelings of the highly sensitive child.

Collage: for this you will need old newspapers, magazines, scissors, glue, different types of fabric, any lightweight material will do, really. The purpose of collage is to create an image, a painting with all these "props" on a piece of paper or canvas. It is a way to stimulate creativity, manual dexterity, space orientation, attention, and communication. It is a fun way to build the relationship and keep you both invested in the game as the fabrics themselves are so diverse. It's impossible to not feel the curiosity of "what will become" of all these things put together?

Theatre play: theatre play helps with confusion and emotional pain when they are present, it helps the child explore in a safe environment as it allows him to portray his own experience without the pressure of explaining rationally what is happening within. Verbal language should not be the main focus when you do theatre play with your child, but the symbolism of his word and actions should be. What cannot be expressed through language may be transmitted through body or nonverbal language. In cases where we feel, know, suspect, etc. some sort of abuse, we should not engage in theatre play for the child to tell us what happened, as it is best for him to talk to a specialist.

Fairy tales and therapy stories: stories are a part of our lives on an everyday basis. Stories, the ones we read or the ones we make up, are usually a clash between good and evil, especially when we are children. As we grow up, stories leap into that grey area where we may get confused about wrong or right. Knowing this about stories, writing, inventing, playing a story that your child narrates or introduces to you is a very powerful tool to help them. Fairy tales encompass a wide range of emotions: love, hate, loneliness, isolation, worthlessness, anger and so on, and are often used in child therapy as they are a way to help the child find meaning and dispel confusion. Every child will take something different from a story, and they feel protected while listening or making up a story, as they are not the protagonist, therefore, nothing bad can happen to them. If you notice your child to be upset at the end of the day and he does not seem eager to tell you what happened, keep in mind that he may not be able (yet, from an emotional perspective) to verbalize it, but you can play it or make a story about both your days and let it unravel the way your child needs it: do not control the narrative, let him explore even if it may get negative, it is a way for children to express their fears, anger or anxiety through such stories. The child can also find solutions for what is bothering him as the story unravels and he could apply them in his real life, but without the pressure of the adult telling the child what to do. A short guideline for reading a fairy-tale to your child for healing purposes, as we need it to have impact – make sure the message within the story is appropriate; select the story that would best suit his difficulties; mould the title, some characters, age, gender of the protagonist to be closer to the child you are trying to help; if you are reading a therapy story make sure you check the message with a therapist first, as you may tend to overwrite the conclusions; take advantage when the child is paying attention to tell stories, check his reaction, which stories he liked best, check-up over time the long lasting impact of the story told; re-read the stories he liked best over time; do not comment the plot storyline or the resemblances between your child and the hero.

Dance and creative movement: “By movement and dancing the inner world of every other person becomes tangible... this technique creates a safe environment, where feelings can be expressed and communicated safely” (Payne, 1988). Dance is a way of expressing the feelings and it is a way of communicating that makes the child feel safe, reducing his anxiety. This technique can help the children to regain their own body and can lead to a better knowledge of their body and feeling comfortable in it. Dance and creative movement expose all feelings and can free his resentments. The feelings that the child has in body, and the way in which the body uses at rest and in the moving, are the expression of its inner world.

Puppets: The puppet or the doll takes life because of the life of the one who animates it. Projective identification object at origin, the doll or puppet can assimilate the value of the transactional object to create a relation with the other. Any object we invest with life can become a puppet or a doll. A piece of cloth, our own hand, or a piece of plasticine: here's a character that can talk, react, live. Creating a puppet can be a real construction or reconstruction of the inner self. We could so keep alive the inner child of each of us, and this is not reserved only for children. This way the child is a spectator

who perceives sensations, which in turn will involve emotions and reflections or the child is a creator and an animator who expresses himself through the animation theatre. It helps the child to self-appreciate, refine his aesthetic tastes and stimulates creativity. When the child is face to face with the puppet we can talk about a creative exercise, through creating and animating their own puppets and presenting this achievement not in a show, but as a form and expression of his inner world in a family or friends' environment. It's not the show; it's the universe that opens for the child.

Games "you will see at once that many truths are told during the game" (Davido, 1998). Childhood is the age of games. For a child is easier to speak through a puppet voice, a doll, a car or a toy soldier than to say directly what he feels, that it seems to him hard to express. Games are still the main ways to communicate with the child. It can be a source of developing the future competences or a way to express energies. Winnicott (2002) said that a good enough toy let the child to express himself. Too technical, too sophisticated toys, or too many toys can affect and imitate the child's capacity to play, to create, to destroy the game. The excess of toys and games isolates the child from the external world. Either the child of 2-4 years old prefers to play with an adult or at age of 4-6 a child is looking for children of the same age enriching the game with objects used in surprising ways, regardless of whether it is individual play, in the dyads or in a group, beyond its techniques, creativity (games with roles or sophisticated games, games with rules), the game is for children source and resources of energy. It is considered that the game can even be a form of self-therapy, whereby the child often works on his confusion, anxieties, and conflicts. A child who doesn't play generates worries at any age and Marcelli (2003) finds three categories for these children: the good child, the hyper mature child, and the depressed child. The good child plays a little and when he plays, he is serious, he gets involved in the game and prefers a competitive game. Even if parents are satisfied because the child is serious and competitive the risk is that this child will be dependent on competition, rules and run out at some point, collapse. The hyper mature child behaves like an adult, do not play or it is marked by aggression, domination, control, he does not have time to play, he takes over the duties of the parents. These behaviours occur in general in children whose parents are sick, alcoholics, drug users or parents are separated. The depressed child has a little expressive figure, an absent air, an empty look. The importance and advantages of games as Eric Berne sees them are maintaining and strengthening the set of personal beliefs, avoiding unpleasant – anxious situations, offering a pseudo civilization, providing topics of discussion.

In the family context, it is necessary to consider the peculiarities of the highly sensitive child, to support him to develop healthily. Parents can help by paying more attention to the signs of overcrowding of the child, not to expose him to crowds, noisy environments, programs loaded with many activities, surprise parties, conflicts, emotionally charged situations both negative and positive (Aron, 2002).

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PART IV

EVIDENCE BASED EMBODIED EDUCATION STRATEGIES TO PROMOTE WELL-BEING OF HIGHLY SENSITIVE CHILDREN

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Abstract

There is compelling evidence demonstrating links between poor or disrupted awareness of sensory information, or interoceptive awareness, and difficulties with emotion regulation. Although HSPs are more mindful and aware of their environment with intense sensory experiences, yet continuous sensory input can make their life stressful. As interoception has been shown to increase focus and enhance the ability to process emotion, practicing interoception builds highly sensitive children's ability to stay calm and grounded. Interoception can help highly sensitive children read and respond to incoming experience and information, taking pause, reflecting and responding more easily. Contemplative practice provides the highly sensitive children with the opportunity to check in with what it feels like to be in their body and learn more about their experience. With this awareness the highly sensitive children can make choices around what they need. The body needs space to do nothing and be calm as well as to play. And high sensitivity makes children more affected by their environment, both negatively and positively.

This part presents a framework and practical strategies, based on psychological and neuroscience research, for understanding how embodied education facilitates regulation and an integrated sense of self, and thus contributes to health and well-being of highly sensitive children.

Keywords: *highly sensitive child, embodied cognition, mind-body, interoceptive awareness, vantage sensitivity*

SENSORY PROCESSING SENSITIVITY, THE BRAIN, THE BODY, THE SPACE

According to Aron et al. (2012), a characteristic of highly sensitive children is their sensory processing sensitivity. Sensory processing sensitivity is a biologically based temperament trait associated with enhanced awareness and responsivity to

environmental and social stimuli (Aron et al. 2012; Greven et al., 2019). According to the sensory processing sensitivity theory, the trait is characterized by greater depth of processing, cognizance of subtleties in the environment, being easily overstimulated, having stronger emotional responses (both positive and negative), and empathy to others' affective cues (Aron & Aron, 1997; Acevedo et al. 2014; Aron et al. 2012). Highly sensitive people have a unique neural activity. They process information more deeply, make connections across themes, feel intensely, and perceive the sights and sounds of the world in a more amplified way (Acevedo et al. 2021). This heightened processing ability is recognized as a function of sensory processing sensitivity and the subjective experience or felt-sense that the mind-body receives and translate from the signals of the senses. A fMRI study found that the anterior insula, a part of the brain associated with emotional processing and visceral sensations (like the gut feelings that often accompany empathy), shows higher activation in highly sensitive people (Acevedo et al. 2014). The highly sensitive participants who looked at happy images of their partners had more brain activation in areas related to bodily sensations with a greater activation in the ventral tegmental area (VTA), a key dopamine area of the brain also associated with motivation, energy, feelings of euphoria, and reward. And highly sensitive individuals who also reported a positive childhood experience showed even greater VTA activity after seeing positive images. In response to negative images, these individuals, interestingly, showed activation in areas associated with self-regulation and cognitive processing. VTA activity, meanwhile, showed decreased activity in response to negative images for those with negative childhood experiences (Acevedo et al. 2017).

Being a highly sensitive child can be quite a challenge. Highly sensitive children are uniquely impacted by what they take in from their surrounding environment and they may struggle to feel safe in the world due to the excess amount of stimulation from the environment around them. Differential susceptibility and biological sensitivity to context theories propose that individuals vary in their degree of sensitivity, and thus highly sensitive persons are more susceptible both to the negative effects of harsh environments, and the benefits of positive and nurturing ones (Aron & Aron, 1997; Aron et al. 2005; Boyce & Ellis, 2005; Belsky, 2005; Belsky & Pluess, 2009; Acevedo et al. 2017; Jagiellowicz et al. 2016; Turjeman-Levi, 2016).

Struggling with self-regulation, the capacity to manage their feelings and can be prone to disassociation or numbness to reduce the overwhelming stimulation. Sensory overload can be painful and traumatic. When any kind of pain is perceived by the mind or the body, it is interpreted as danger. And when the body perceives any kind of danger it activates the central nervous system. All young children show a fear response when confronted by frightening or very unusual situations. They will respond by staying close to their parents, and exhibit facial expressions of fear, crying and a refusal to investigate and approach. However highly sensitive children may show fear responses in situations that are not particularly threatening or frightening but are unfamiliar, different, unpredictable, or unexpected.

In the case of highly sensitive children, the environment and social stimuli play a crucial, yet invisible, role in their identity formation and affects their behaviours to a much greater degree than other children. Sensory processing sensitivity creates real distinctions between highly sensitive children and other children. One is that their sensory life defies the general culture (Aron et al. 2010), the second is that space is crucial to how they understand themselves. This explains why highly sensitive children's behaviours seem unlike other children in certain situations. The sensory input they receive from social life and the environment has a deeper impact on how these children formulate their sense of self and their identity. The spatial embodied knowledge is vital to the identity formation and sensorial experiences of highly sensitive children.

How parents and educators understand high sensory processing sensitivity and the senses is influenced by their culture and greatly affects their ability to support their highly sensitive child to thrive. This makes being highly sensitive very challenging within a Cartesian Culture. While it is understood that the body, self, and social interaction are intimately interrelated and constantly reconfigured, for a long-time scientific perspective has been presumed that the senses and our use of the body to be regulated by the rules of our dominant culture. The theoretical deficit reported more than three centuries ago by Baruch Spinoza still dominates contemporary philosophy of mind and neuroscience today:

No one has yet determined the body's capabilities. Experience has not taught anyone what, according to the laws of nature considered only as corporeal, the body can and what it cannot do, without being determined by the mind. No one, in fact, yet knows the structure of the body so specifically as to be able to explain all its functions [...]. This is proof enough that the body, by the laws of its nature alone, can do many things that arouse the wonder of its mind. (Spinoza, The Ethics: Ethica Ordine Geometrico Demonstrata, 1677: 1321)

In particular, the set of studies that has been categorised under the name of “embodied cognition” seems to have arisen as a response to the need to define the possibilities and limitations of bodily knowledge in the context of a new theory of the mind. The different ways in which this response has been filled and continues to be filled with content has not, however, given rise to definitive results. The fraying of this field of study in a series of internal assertions and sub-assertions– the now famous 4E cognitions: embedded, embodied, enacted, extended (Rowlands, 2010) – that often contradict each other. Nevertheless, the new paradigm of plural mind, and the recognised uniqueness of each individual in their being in the world with others, shows us the basic principles of an inclusive educational approach. An approach which is based on the variability of each individual and on respect for this existential specificity that characterises all human beings and provides us with, also with the help of the principles of universal design for learning, significant guidelines for possible didactic programmes for each teacher. We consider that behaviours have a structure; they are in space and time. Embodied cognition proposes an inseparable relation of cognitive

processes and body interactions, which creates a causal dependency on mental events that derive on body actions in a specific environment (Kiverstein, 2018). The basic tenets of embodied cognition suggest that cognitive functions depend on their use and interaction with the environment (Shapiro and Spaulding, 2019).

Cosco & Moore (2009) underlines that well-being is a balance between health human processes (psychological, physical, spiritual) and healthy environments (landscapes, built environments, and the social circumstances of daily life). They consider that physical environments and behaviour (physiological response to stimuli) are indissolubly linked. Their spatial and temporal boundaries are identifiable, and their functions are independent of other adjacent eco-behaviours. In other words, behaviours can emerge from our interactions with the environment.

Finally, our approach is based on the development of two aspects of embodied cognitive science: 1) the paradigm of intersubjectivity and the focus on the emotional-body relational dimension (Gallese, 2007; 2008; 2013) in the learning processes; 2) the socio-cognitive approach (Atkinson, 2011) and the centring of linguistic and communication processes in their physical association with gestures and movement (another essential aspect of embodied cognition) in daily teaching practice (Iverson and Helen, 1999).

THE ARCHITECTURE OF EMBODIED EDUCATION FOR HIGHLY SENSITIVE CHILDREN

Michelangelo Buonarroti almost five centuries ago wrote:

It is certain that the members of architecture depend on the limbs of man. Who has not been or is not a good teacher of figures, and maximum of anatomy, cannot be understood.

Having definitively overcome the Cartesian dualistic error (Damasio, 1994), it is no longer possible to think that one can study the mind without considering the fact that cognitive processes are influenced by the brain and, in general, by the body, by its constraints and by the opportunities that it presents (Borghi, & Iachini 2002; Gomez Paloma, 2017). As Pennisi (2016, p 197) writes:

It is a kind of reversal of what we have always thought: the “intelligent” brain does not create evolutionary changes but ensures their survival. The “obtuse” skeletal body creates evolutionary changes without knowing what they will ever be used for. If they both didn’t constantly interact, the organism would not materialise the evolutionary advantage caused by an always random genetic mutation, that is, by the unpredictable variation of bodily structure.

It is therefore correct to affirm that the body's tenant brain is a part of the body. But it is a part that has limitations, morphological structures, and adaptation and developmental properties that are different and much faster than those of all the other parts that our organism is made up of. Cerebral evolution is fast because its continuous monitoring process of sensorimotor events cannot leave individuals indeterminate in their behaviours for long, on account of their precariousness and the danger of extinction, without the intervention of a specific adaptation to that type of stress, which comes from the activation of the modified body (by endogenous mutations or those caused by environmental needs) (Pennisi, 2016).

In the field of neuroscience, it is known that any movement we make is the result of the union between the information that comes to us from our environment and the awareness of our body in space. In this way, a motor idea is generated, which must then arrive quickly from the brain to the muscles. Sight, hearing, touch, the vestibular system, the proprioceptive system, the brain, and muscles work together to produce and coordinate movement. This entire complex system develops during the first years of life and reaches its completion around the age of seven, an age at which the child's basic motor skills are equal to those of an adult, even if they can be perfected and specialised as the child grows. Yet, in education, the body, movement and motor skills are considered separate from the mind, ideas and intelligence. Not only that, but there are also many beliefs not supported by scientific evidence that underestimate the role of conscious motor activities in pre-school.

Psychomotor development represents the integrated and synergistic growth of the motor dimension and the psychic dimension of children. It expresses the close interrelation, in a constant relationship of cause and effect, between motor maturation in all its movement, praxic and sensory forms, and the psychic dimension in all its forms (cognitive, emotional, relational). This definition shows us the close and consistent relationship between the two areas, which, as many authors point out, presents a spatial proximity also from a neurological point of view.

The relationship between the body, movement and learning has evolved and deepened over time, as expressed by different pedagogical trends. The Aristotelian school was called peripatetic precisely because the teacher and students discussed matters whilst walking. And if Piaget emphasises that to teach, one must always remember that every concept originated from an action, Montessori observes that the hand is the organ of intelligence.

In recent times, awareness that the body represents the fundamental hub of all knowledge (Sini, 2012) has placed, on the one hand, the role of an embodied sensitivity in educational processes at the centre, but on the other it continues to be reductionistic or, on the contrary, but with the same effect, to generate more purely theoretical reflections. The body we are talking about is in fact often an abstract body, whose effects struggle to meet the living bodies of children and their teachers, to produce those potential changes that a teaching style open to the senses (Gamelli, 2013) could generate. The body has thus remained trapped in the network of the fragmentation of knowledge, although it can be considered a transversal tool for learning.

In the context of embodied cognition, the body and motor experience are characterised as an experience of integrated relational knowledge, based on the interconnection of different dimensions: real movement of the body, representations of movement, memories, emotions, perceptions and thoughts. The thoughts that develop in the brain can trigger emotional states, translated into action by the body; at the same time, the latter can change the course of thoughts (Corona, Cozzarelli, 2012).

In the activities and simulations proposed in the educational field, the body becomes the protagonist, experiencing itself in such a way as to increase the centrality of the bodily and emotional dimension both in the learning process and in human relationships, to highlight how the environment influences the expression of one's own emotional states and is essential for building empathic relationships (Sibilio, 2007).

In the context of school for everyone and for all, it is impossible to overlook the fact that relationships are at the heart of educational and academic success. Emotional and empathic dimensions play a central role (in a positive or negative sense) even beyond school: in the development of transversal social and citizenship key competencies and in achieving individual and collective well-being (Mason, 2013). Several neuroscience scholars (among others, Immordino-Yang and Damasio, 2007; Immordino-Yang, 2015) demonstrate the indisputable link between emotion and cognition and suggest that body and mind work together in students of all ages, regarding decision-making and the development of general skills; emotional processes are necessary to be able to use knowledge and skills in real life, as they represent a sort of rudder that guides judgement and action.

Our mind, brain and body are all interconnected. When a child is under pressure, their brain produces high levels of the stress hormone, cortisol. It also produces adrenaline. An increase in cortisone can increase anxiety and dysregulation. When this happens, functional and social communication skills decrease - because the brain cannot access the prefrontal cortex, which controls executive functioning. This triggers a fight or flight response and brings with it a huge adrenaline rush. Numerous studies have shown that physical activity reduces cortisol and adrenaline levels, increasing dopamine and other endorphins; in other words, it helps improve emotional regulation. In addition, the exercises prepare the brain to focus more and to learn. They can be done in the morning, before class, in the afternoon before homework or when the child needs to decompress.

Developmental cognitive neurosciences present an image of a child as an integrated system of emotion and cognition, of biology and experience, key aspects that will encourage reflection and awareness of inclusion, a philosophy of acceptance of all people. An environment is inclusive when it concerns itself with all diversities and can think of and implement specific responses to each of them: so as not to waste potential, it is necessary to ensure that everyone can participate in learning and group life, in the most active, autonomous, and useful way possible.

Neuroscience links body-brain-mind in a relationship that seems, in some cases, to be independent of any teaching: mirror neurons have in fact revealed the existence of what is now known as knowledge without knowledge. The discovery of mirror

neurons, which preside over our ability to feel what the other feels and understand what they do, introduces the fundamental role of experience in relational and learning processes and, above all, of bodily experience. It is the relationship, and not the ego, that is the fundamental human experience and embodied relationship that comes from the body itself (Ammaniti & Gallese, 2014). Only this fundamental information, that is already widely understood by the most experienced trainers, should lead us to radically modify our training rooms, introducing moments in which the body can perform its very important role as a learning facilitator. Perhaps this could be done by developing sets of situations that allow us to experiment with ad hoc experiences (think about the effectiveness of using theatrical techniques in training and education, that has already been tested).

The progress of neuroscience and the perspective of new humanism invoked by the European Council (2019) and the Italian National Guidelines (2012) for the pre-school curriculum and the first cycle of education have today brought attention to the body, which is indicated as one of the great objects of knowledge that must be “taught to be recreated [...] in a complex perspective, that is, aimed at overcoming the fragmentation of disciplines and integrating them into new overall frameworks” (MIUR, 2012). In the Italian National Guidelines (2012), in relation to “the body and movement”, it is stated unequivocally that “children become aware of their own body, using it from birth as an instrument of self-knowledge in the world. Moving is the first thing to be learned: searching, discovering, playing, jumping, and running to school is a source of well-being and psycho-physical balance.” Not only is it affirmed that one learns through the body, but through the body and its movement one also reaches well-being, that is, being well, which is a prerequisite of acting well and no less important than knowing well. An even more global and inclusive vision than just the goal reached by talking about “incorporated knowledge” or “pedagogy of the body”.

More recent is the research on the relationship between physical learning spaces and learning levels. In the 2012 Italian National Guidelines, the learning environment is defined as “a suitable environment for promoting meaningful learning and guaranteeing educational success for all pupils” (MIUR, 2012) and that the term environment is just a metaphor to indicate a context in which one activates, builds, supports learning, and makes sense of one’s knowledge.

The learning environment is therefore multidimensional in that it’s possible to distinguish a material and organisational dimension, a didactic dimension and a relational dimension. It is not only physical space (that until a few years ago was exclusively the classroom) but also physical space. A space that teaches and makes learning more effective. It is the space that Loris Malaguzzi defined as the third educator, alongside school and family. According to Barret et al (2017), a 16 per cent improvement in student learning outcomes can be measured when it occurs in better quality educational spaces.

If it is true that there is therefore a close relationship between the body and learning in the sense that the body plays a very important role in facilitating learning processes,

and if it is also true that there is a significant link between learning and educational spaces, given that the results of students improve with higher quality physical spaces, we can use transitive property, according to the rules of mathematics, and also assume that there is an essential link between the body and educational spaces.

The school must involve the body, and different pedagogical trends have explored how much more effective learning is when it involves the body, movement, action and doing. And, in terms of physical environment, schools must take care of all the spaces that make up the school building, making them more comfortable (Tolja & Puig, 2016). Educational arenas must primarily be flexible enough to offer the teacher the opportunity to choose the educational setting that is most suitable for the activity to be carried out with the students, evaluating all the elements that can amplify their communication style. In fact, communicative relationships, pupils' behaviour, and class dynamics can certainly benefit from a well-constructed environment, from a space that respects the sensitive body.

It is important to be aware that the educational space is never an end, but part of an ever-evolving educational project, as is the body of each pupil. Educational spaces should also involve the senses through the skilful use of colours. Equally, it is necessary to carefully design horizontal and vertical connections (which express movement), spaces for relaxation and informal learning, spaces for interacting and spaces outside the school that are all part of a single body: that of the school building.

A class tailored to the sensitive body is certainly the fundamental aspect of the safety and well-being of sensitive pupils. It is important to keep in mind the importance of making the sensitive children feel safe, so that they can grow in a healthy and harmonious way in all developmental areas. We have various actions and areas of focus available that we can easily implement. Educational contexts should also make health care a priority using embodied cognition schemes starting from early ages (Aguirre-Loaiza et al. 2021).

It is important to facilitate good adjustment of highly sensitive children in schools, through integration practices that can provide them with an all-round sense of security in the new environment. For example, the onboarding methods that involve the presence of a close adult in the first few days work very well. With the primary caregiver present in the new environment, the highly sensitive child can more easily activate his/her own system of social involvement and keep his/her defence mechanisms at bay, which typically arise when he/she encounter new things. This translates into a greater willingness of the highly sensitive child to build relationships with teachers and peers, to explore the environment and to get involved in the various activities and offerings.

Creating an environment that provides the highly sensitive child with a sense of sensory security is also relevant (Pluess, 2015). Teachers and educators should therefore be attentive to background noises in our environments such as, for example, fans in ventilation systems, sounds of traffic on the street, voices of adults and children in the environment, etc. Instead, we frequently spend time in noisy educational spaces that do not favour our well-being. Background noise stresses the defensive systems

of the highly sensitive child, making him/her more nervous and reactive, due to the activation of the sympathetic system. On the sensory level, attention should also be paid to visual stimulation, so it would be preferable for the rooms to be furnished with neutral, natural colours and artificial lights that are not too intense. Furthermore, the layout of the space, as Montessori (1950) taught us, in turn helps to calm the defensive systems, as does a harmonious and pleasant environment in general.

It is necessary to make sure that in the space there are dens, collection corners, soft corners, and tables for working alone or in a small group, so that children can find places to take refuge, rest and break away from involvement with the extended group to be able to restore energy and a sense of calm.

If teachers or educators consider using background music, they should opt for melodic sounds, sung by a very modulated voice and with low frequency tones, avoiding as much as possible high frequencies and heavy music, so that a sense of tranquillity and safety is transmitted. Using melodic music and/or singing low-frequency songs with highly sensitive children is helpful in creating a strong sense of security in them.

Routines are a definite factor in creating and reinforcing a sense of security. It is good to create predictability in the alternation of daily routines so that the child is able to anticipate events and alert children of any changes or unforeseen events so that their sense of security can be restored (Avecedo et al. 2018; Pluess, 2015).

The school can then be seen as a body itself. This unit, this system, has its concrete place in the physicality of the school: its building, its rooms, furnishings, objects, all tell in a very clear, phenomenological way, the qualities of its character, didactic style, and benchmark values. By interpreting Helmut Plessner's message on the importance of mind-body unity, it is possible to explain the physicality of the school by drawing on the metaphor of the body. Like man, the school is also a body and has a body: it is its building, its furnishings, and the objects it contains. It has a physical body (*Körper*) and a lived body (*Leib*) and it is the body that feels itself, through the intertwining of experiences perceived through the five senses. To be, to give oneself, to possess oneself. The body (the materiality) of the school expresses the true giving of its being (Rasini, 2016).

The pedagogist, thinking of the school as a body, explores the physical and expressive variations of school buildings: the body is the facade of the school, the backbone is the teaching staff, the nervous system is represented by the relationships within while the architectural choices reveal its character. We discover that the school has a slow metabolism compared to society, and that it has a centre of gravity that traditionally coincides with the classroom. The school, again, has both a sonority (the echoes, the reverberations) and senses (shape and colour and a haptic and acoustic dimension).

In conclusion - almost to close the *ensō*¹ - we like to think that the statement attributed to Michelangelo, "I'm still learning", is really his. Just three words that broaden the boundaries of research by connecting the body, mind, space and even time for highly sensitive children.

¹ By *ensō* (円相, Japanese for "circle") we mean the image of a circle that very often occurs in Zen art. "Each haiku is like a circle, half of which is the result of the work of the *haijin*, but closing the circle is the reader's responsibility" Ogiwara Seisensui (1884–1976).

THE AWARENESS OF BEING HIGHLY SENSITIVE. EMBODIED MINDFULNESS AND WELL-BEING FOR HIGHLY SENSITIVE CHILDREN

The highly sensitive child must be supported in the regulation of their emotions in general, so that they feel accompanied by a trusted adult in the exploration of their internal world, exploration that they do not feel comfortable carrying out on their own.

Self-regulation refers to the child's capacity to control the inherent tendency to react to situations in a particular way, such as approach or avoidance, holding back or rushing in. It refers to a child's ability to adapt and control his or her innate responses to stimuli from within the body and from the environment, and the ability to direct and use attention in an appropriate way.

The emotional world of the highly sensitive children, as we know, is very varied and what they feel is usually intense: it is easy for them to feel scared and anxious because of their powerful and often incomprehensible sensations and emotions. They need a guide to accompany them and make them feel safe as they contact their internal world. Among the best neural exercises is play in general and particularly using the body to play, which is fundamental for children to train the sympathetic system to get involved in a positive way.

Several studies have examined the effects of specific activities and sensory processing sensitivity on mood states. However, physical activity, traditionally effective for regulating mood, is more stressful for individuals with high sensory processing sensitivity and it does not regulate momentary psychological mood. Therefore, individuals with high sensory processing sensitivity are likely to become physically inactive (Amemiya et al., 2020). Somatic education can be defined as a concrete, motor activity, based on play and the expressiveness of children, who can experience and experiment with actions and relationships first-hand. There is a big difference between physical education, in which the main objective is strengthening certain skills through repetition and exercise, and conscious movement. In somatic education, the goal is the development of a consciousness of the bodily self which allows for the discovery, even before exercise, of one's abilities.

Aron (2010) suggests that psychosomatic techniques such as meditation are effective for regulating mental health among individuals with high sensory processing sensitivity. Mindfulness-based interventions (MBIs) have gained growing interest over the past few decades among scientific and public communities for their promising effects in improving psychological well-being, cognition, physiology, and brain health, in both healthy and clinical populations (Chiesa et al., 2011; Gu et al., 2015; Khoury et al., 2015; Tang et al., 2015; Black and Slavich, 2016). It has been suggested that MBIs enhance self-regulation through three interacting processes: enhanced attention control, improved emotional regulation, and altered self-awareness (diminished self-referential processing and enhanced body awareness) (Tang et al., 2015).

By mindful movement (also called meditative movement or mind-body training), we mean a new category used to define motor practices that emphasise awareness of

the body and the movements it produces, using the breath as a vehicle for achieving profound states of relaxation (Larkey et al., 2009). Among the most common forms of mindful movement, we find Yoga, Tai Chi, Qui Gong and Aikido. Sign-Chi-Do, Neuromuscular Integrative Action, Feldenkrais, Eurhythmy, Interoceptive Awareness Programme, and Quadrato Motor Training are, on the other hand, lesser-known forms. As meditative practices place the focus on an image, a mantra, or the breath itself, mind-body practices replace these objects with movement (hence, meditative movement), making the practitioner aware, in each moment, of what is happening in the internal and external environment of his body, thus excluding any other type of thought (Amemiya, 2020; Tang & Braver, 2020). A movement typically described as slow, relaxed and fluid, but which can range from static postures, like in yoga, to large and fast movements, as in the case of aikido. Preliminary evidence suggests an initial involvement of the sympathetic nervous system and the hypothalamus-pituitary-adrenal (HPA) axis: mindful motor practices have been found to be useful in reducing stress and increasing the ability to manage stress in those who practice them, with a consequent reduction in the activation of the sympathetic and HPA systems, thus reducing anxiety, depression, and the processes of cognitive deterioration (Gothe et al., 2016). Another mechanism by which mind-body training improves cognitive functioning is the increase in inter- and intra-hemispheric neuronal synchronisation, especially in the frontal and fronto-cerebellar area of the brain and in alpha frequencies. Finally, further studies found an increase in synapses, neurotrophins and cerebellar grey matter (Pesce, 2012; Pesce & Ben-Soussan, 2016). Furthermore, these are practices that do not require large physical spaces or expensive machinery and/or sports equipment. Therefore, they could also be used at school, contributing significantly to aiding healthy neuromotor and cognitive development of children, as well as improving school performance.

There are several elements that establish the relevance of mindful movement practice in educational context and for highly sensitive children, but it is worth summarising some that are particularly useful and certainly known to educators, but that are seldom considered within educational organisations.

Firstly, the discovery of mirror neurons, which preside over our ability to feel what the other feels and understand what they do, introduces the fundamental role of experience in relational and learning processes and, above all, of bodily experience. It is the relationship, and not the ego, that is the fundamental human experience and embodied relationship that comes from the body itself (Ammaniti, et al. 2014). Only this fundamental information should lead teachers to radically modify classrooms, introducing moments in which the body can perform its very important role as a learning facilitator. The feedback on the activities carried out was provided either in the classroom or privately, to allow immediate adjustments to be made.

The second factor is also already well known to educators is the emotions. Emotions, in fact, represent not a different but co-substantial way of producing learning together with cognitive work. Through emotion, the so-called somatic marker is generated (Damasio, 2000), which allows you to associate a positive or negative

emotional state with a given situation. When the same situation occurs again, rationality will guide the decision but based on the previous work carried out by the emotions. The two moments are not different but part of the same process. Consequently, if the acquisition of new information is associated with engaging emotional experiences, a series of information anchors will be generated that will allow for faster and easier recall. That is, the emotional contents of an experience represent indispensable reinforcement. The importance of the emotional dimension of education should be always considered, even in language, in favour of communication that is only cognitive and rational (at best), and completely insufficient to “deliver” the messages and much less to induce changes in behaviour. In a mirror image, negative emotions and in particular anxiety and fear can profoundly disturb the effectiveness of the cognitive system, in some cases (think of the emotional seizure) blocking it almost completely. When we experience pain and anguish, specific enzymes produced by the amygdala will facilitate the recording of the memory that will be used to avoid or prevent the same situation in the future (something that should not be underestimated in change management processes).

Proprioception (the perception of muscles and skeletal structure, which provides a sense of the body’s position in space) and interoception (the perception of our internal milieu and signals, regarding the sense of our body’s homeostatic balance) together with ‘background feelings’ are the main ways in which we perceive our body. The main ‘background feelings’ [fatigue; energy; excitement; wellness; sickness; tension; relaxation; surging; dragging; stability; balance; imbalance; harmony; discord] indicate the temporary internal “temperature” of the body. What we ‘feel’ are perceptions of the present state of the body.

Thanks to this basic perception, we arrive at a sense of being, our biological identity, which is the most elementary meaning that we can attribute to the word self (biological self). This leads us to reflect on how the biological self is connected to other meanings of self, such as autobiographical self and social self and on the relationship between the individual body and the possibility of subjective perception, in the first person.

Interoception is a subjective internal awareness when an emotion is felt in the body (the sensory nerve receptors, the interoceptors, receive and transmit sensations from stimuli within the body). On the other hand, postures, facial expressions and gestures express internal emotional states externally, communicating them to others (Ogden, 2009). Bodily awareness of the self includes interoception, that is, feeling our breath, digestion, anger, activation, pain, emotion, fatigue, and at the same time an awareness of movement and coordination between the different parts of the body and between the body and the environment. It concerns being in a subjective emotional state to which the terms feeling and emotion are often used as synonyms. It is possible, however, especially in the Romance languages, to differentiate them in a more refined way: in the Italian language, for example, emotion is distinguished from feeling and sentiment.

Feeling is distinguished not only by emotion, but also by a sentiment: this can be defined, rather, as a real mental state that we are always aware of, that follows an

emotion or rather a collection of emotions. A developed sentiment such as friendship, for example, is not simply the conscious perception of an emotion: it is identifiable, rather, by a long-term state that involves the individual in a series of emotions. Unlike a sentiment, then, feeling could be ascribed to the subjective component inherent in experiencing any psychological state. Here, the term feeling is offered to refer to the entire 'collection of states' that can be 'felt' (such as emotions, but also needs, desires, motivations, etc.).

One of the fundamental questions to ask is whether a neocortical basis is intrinsically necessary to feel or whether feeling is not, rather, a dimension more deeply rooted in the body than is usually believed. In the neuroscientific field, since Descartes' Error, Damasio (1994) has proposed a formulation of feeling in which this corporeal root clearly emerges. The neurobiologist proposes an organismic vision with which he tries to overcome the new dualism (typical of the neuroscientific approach itself) between brain and body. In fact, to simplify, neuroscience has mainly taken into consideration the mind/brain relationship, which has outclassed the role of the body in the creation of mental states. In current research, however, the body can no longer be considered simply the container of the brain: its role seems equally fundamental to what is defined, in a still nebulous way, as the mind.

With regard to the categorisation of feeling, more specifically, Damasio has proposed an unorthodox concept, that of background feelings, a sort of mirror concept to background emotions, which he also introduced in the already problematic taxonomy of emotions, a version of which the neurobiologist has provided for the umpteenth time:

I am postulating another variety of feeling which I suspect preceded the others in evolution. I call it background feeling because it originates in "background" body states rather than in emotional states (Damasio, 1994, 150).

Damasio introduces a further level of underlying emotions, that are emotions, or rather "protoemotions", that precede all the others on a phylogenetic and ontogenetic level, and that do not necessarily require language to be expressed or identified (1999, 52). Underlying emotions were those like malaise, well-being, tension, irritability, that is "complex collections of bodily states based on the fundamental states of pleasure and pain". "Complex collections of bodily changes, basic homeostatic processes, pain and pleasure behaviours, regulatory responses of the organism" (Damasio 1999, 52). Harnad (2001) has in fact suggested calling them motions instead of emotions, non-specific and preceding the real emotions (starting from the primary ones). Therefore, it is not a question of emotions: Damasio (1994) defines them as such, but they differ, as they come from an overall online bodily state, in the sense that they are based on the condition of the body, considered not just by one of its specific parts, but as a whole.

When we are relaxed or tense, for example, it is not a part of our body that is relaxed or tense, but these states emerge from the entirety of received bodily feedback.

Underlying emotions have been regulators of the body, including those that, from metabolic regulation up to secondary or social emotions, are responsible for keeping the organism in balance. They are distinguished from emotions (for example the primary ones, which are the most similar and always have a specific cause), by their non-specificity. When one is tense, for example, it is not necessarily possible to trace back to a specific reason for this tension, which occurs primarily within the body: it is the relationship with the world in general that causes a state of tension. The origin can be external, as in this case, or internal, when it comes from visceral reactions.

Underlying emotions become background feelings when one becomes aware of them; when they are brought to the foreground from the background, underlying emotions are perceived and become basic sentiments (this also gives a good sense of the etymology of the word emotion, from *ex-movere* = 'move from' a pre-existing state, always in the background).

Damasio (1994) takes care to distinguish between emotion and feeling (or feeling and sentiment) and proposes his own unorthodox categorisation of feeling, introducing the additional term background feelings. In the most recent *Looking for Spinoza* (2003), Damasio tries to define feeling by starting from the Spinozian concept of *affectus*. They do not derive from the emotions proper (from the primary ones), but precede them, in that perceptions of collections of bodily states are defined, in fact, as underlying emotions. The term feeling, therefore, is extremely insufficient for the entire spectrum of feeling and differs, above all, from background feelings.

Feeling does not only concern emotions, but also needs, motivations, desires, etc., which have the common characteristic of an evaluative component (with different levels of complexity) and feedback coming from the perception of the overall bodily state through the so-called interoception, which can occur on two levels. The first is that of proprioception, the perception of the body as a musculoskeletal structure; the second level is that of interoception, the sense of the body coming from the viscera and internal milieu, from homeostatic equilibrium (Damasio, 2003; Gallagher, 2005).

Feeling, in fact, reveals a deep and unavoidable bodily root, which does not reside only in the brain: the feedback of the body, at a proprioceptive and interoceptive level, involves the whole body (of which the brain, of course, is part). It is therefore necessary to overcome the body/brain dualism into which neuroscience has also fallen back. Damasio recognises a primacy of the somatic over the mental or, better, reiterates that what we define mental does not derive from anything other than ever more complex levels of organisation of a biological and bodily structure, in the first instance.

Wyller et al. (2017) support the possible therapeutic effects of Mindfulness-Based Cognitive Therapy (MBCT;) on sensory processing sensitivity-related psychological distress. Mindful processing is hypothesised to increase not just attention to sensory, body signals but also awareness of one's interpretation of such signals and one's response to them (Farb, Daubenmier, Price, et al., 2015 in Wyller et al., 2017). For instance, increased awareness of the bodily expression of an emotion might lead to greater awareness of one's own emotional life (Mehling, Gopisetty, Daubenmier, et al., 2009 in Wyller et al., 2017). Thus allows the creation of a broader context for

emotional experience as opposed to taking emotions and their bodily expressions at face value. The model proposed by Wyller et al. (2017) suggests that it is neither intense sensory information per se nor the related negative emotions which cause psychological distress, so much as it is the subsequent, secondary cognitive reactions to them. These secondary reactions might be what distinguishes healthy and unhealthy highly sensitive people while providing a unifying explanation for the associations between sensory processing sensitivity and emotional distress such as depression and anxiety, somatic symptoms such as chronic pain and fatigue, and ensuing difficulties related to behaviour and personality.

Mindful movement, such as yoga, leads to improvements in attention control problems and changes in executive function. And as attention control is associated with emotional control, improvement in attentional control can contribute to improvements in mood states (Amemiya et al. 2020; Tang et al., 2015). Mindfulness and mindful movement help highly sensitive children to become aware of their incoming thoughts and feelings and to learn to observe them, without attaching or reacting to them. If children can learn to gain this sort of awareness, they can also learn to avoid the different triggers associated with their negative symptoms, thoughts, and/or feelings. These practices have been shown to activate the prefrontal cortex of the brain, one function of which is regulation and self-control and to help children to actually experience fewer triggers over time. Practicing interoception builds their ability to stay calm and grounded. It offers to highly sensitivity children a feeling of having time so they can slow down and feel life at a speed that is comfortable for them. Interoception can help them read and respond to incoming experience and information. Interoception has been shown to increase focus and enhance the ability to process emotion. Highly sensitive children can gain more internal bandwidth to meet stress without getting reactive, confused or triggered. They can pause, reflect and respond more easily. By engaging pleasant movements children receive information from their body in a bottom-up way. This bypasses the emotional arousal or cognitive confusion that arises from their brain. Their thinking mind takes a break. Embodiment supports highly sensitive children in developing ways of moving and being that are supportive and aren't stressful or too much. The experience becomes natural, and they perceive more deeply and clearly and without triggering the limbic system and alarming themselves. Another advantage of interception or embodiment is that as they feel at home in their body it becomes much easier to pinpoint the sources of pain, anxiety, or bad feelings. Pinpointing them allows them to assess situations and beliefs clearly cognitively so they have more control and less reaction. Highly sensitive children gradually acquire skills that help them live more easily as a sensitive person, and calm pain, injury, and bad movement habits. The value of such an interception cannot be stated enough.

Finally, the brain is not built to do several things at the same time; thus, another myth of the XX century is shattered. Or rather it can do this, but with unsatisfactory results and by making many errors. As we have said, the basis of learning a skill is selective attention, or the ability to focus attention on a specific category of stimuli

excluding all others and in sequence, one at a time. Selective attention is a strategy developed by the brain to avoid having to decipher too many irrelevant inputs and is essential for learning. The brain is capable of multitasking, but only in the case of simple tasks or activities that have already been memorised and which are therefore considered automatic, such as speaking while driving (Madore & Wagner, 2019). Only conscious attention, in fact, generates learning (Rivoltella, 2012; 2014; 2018). And highly sensitive children also get affected by environmental and sensory stimuli that others don't notice or are simply not bothered by. Things like too much noise, alarms ringing constantly, strong smells, doing too many things at once, for example, can lead to overstimulation in their sensory nervous systems. And if there is too much, this can lead to over-arousal and highly sensitive children end up feeling overwhelmed. Mindfulness and mindful movement help children and adults to be single-tasking superheroes. Learning to use their attention in an effective way can help them feel better at the end of the day.

What seems to make the difference to practitioners is evidence, and so a raised awareness that the issues identified in this paper do impact on highly sensitive children's well-being. Until now, most of these issues seem to have occupied a blind spot for practitioners, and so have been unaddressed and unmanaged. Once they come into focus, rapid and effective action is entirely possible and likely.

In conclusion, after this quick and non-exhaustive summary of some useful neuroscientific evidence, we must also point out another fundamental process for teachers and educators: that of modelling. Teachers and educators are the model and the music in the room. When teachers and educators take time to help children grow their self-awareness and practice self-care, they learn how to consciously manage their emotions and impulses. Thus, takes mirroring, practice, and reflection.

Studies on the brain have shown, through the mechanism of mirror neurons, how learning through a model, that is by example, actually modifies our neurons in the long term through the creation of new synapses and therefore new behaviours; in short, true "neuronal" training. In this sense, the latin word *insignare*, in the proper sense of "leaving a mark within", acquires a new meaning and a new significance, reminding us of the great responsibility that teachers and educators bear, for better or worse, in regard to their pupils.

TAKING CARE OF EDUCATORS AND CARERS. THE OXYGEN MASK RULE

Every time we fly, we hear flight attendants sharing some variation of the oxygen mask rule: "Should the cabin lose pressure, oxygen masks will drop from the overhead area. Please place the mask over your own mouth and nose before assisting others". Without our oxygen mask, we will quickly lose consciousness. If we don't make putting on our mask our first priority, we will very likely not be able to help anyone.

When helping, whatever it means, seems to leave little time for anything else, the result is quite often burnout. Some feelings that may accompany are exhaustion, frustration, and anger, along with possibly feeling ineffective, helpless, or hopeless. To avoid burnout, managing one's own self-care is a key responsibility to maintain happiness, physical and mental health. It requires consciously planning to include time in the day to attend to ones' own needs and make that time a priority.

If teachers, educators, and carers are often overwhelmed with thoughts, sensations or emotions, developing their embodiment can help them stay calm and relaxed no matter how high their sensitivity level is.

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E-motion

Potential of highly sensitivity

Reviewed monograph titled Supporting the development of Highly Sensitive Children concerns the topic of sensory processing sensitivity and environmental sensitivity. The authors make an effort to systematize knowledge about the functioning of a Highly Sensitive Child, taking into account the role of the environment in which the child develops, in order to try to answer the question: how to use this knowledge in practice.

The authors explain the essence of the sensitivity of sensory processing, show the challenges faced by the school system (especially by teachers and educators), present the difficulties of parents and the family environment (with the possibility of overcoming them), and also introduce the essence of self-regulation in the behavior of Highly Sensitive Children.

For the first time ever, Polish readers are provided with such a comprehensive study, thanks to which they also have the opportunity to fully understand and support Highly Sensitive Children who come to live in such demanding, ruthless and brutal times.

From Review Zbigniew B. Gaś, PhD, Associate Professor at WSEI in Lublin
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Monograph Supporting the development of Highly Sensitive Children introduces the reader into the world of Highly Sensitive Children. It allows to understand how the child experiences stimuli from the internal and external world and how he or she tries to deal with these stimuli. This study also introduces us to the difficulties faced by Highly Sensitive Children, and at the same time suggests the direction in which to support them. It fits perfectly into the new direction of educational policy, namely functional diagnosis based on the child's resources. The value of the book is increased by scientifically based methods of support for parents and teachers who want to create optimal conditions for the development of Highly Sensitive Children.


From Review Piotr Szczukiewicz, PhD
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