Recent Advances in Autism

Chapter 3

Adaptive Behavior and Autism Spectrum Disorder: Support Needs and Demands

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Introduction

We all need help and support throughout our lives. We talk about informal support, facilities at key moments in our lives, help that facilitates the performance of vital tasks for which we may feel unprepared... But we also about more formal and institutionalised support, expressly requested in the face of specific difficulties that interfere with the functioning of a normalised life. Differences that characterize human beings means that some people need depending on the quantity and quality of help. When it concerns minor aids and supports, too often we overlook or do not stop to reflect on their positive effect, power and significance, and many times, these supports received - either too much or too little - are met with criticism, protest or dissatisfaction with the treatment received by the others.

This exercise of social interaction, that Vygotsky considered essential for people's cognitive development, is described by Bruner (1966, as cited in Losada-Puente & Fiuza, 2021) as *scaffolding processes*, which in reality is the adjustment of the help people need for their learning and development according to their needs and demands. Sometimes, the appraisal of these adjustments is done spontaneously, and sometimes it requires determining the type of aid that is sufficient and appropriate to whom is receiving it and to what is being pursued. Our intelligence often facilitates the conversion into sufficient help in a spontaneous and natural way, as not all help can be established beforehand. The help given or received in our lives is usually spontaneous and natural, acting in this way; the difficulty and the challenge

arise when this help is not adequate or does not satisfy the demand or need, so establishing the levels of support adjusted to the demand and need is usually complicated and difficult in the contexts in which it is established.

The mismatch in the quality and quantity of support with respect to the demands and needs often occurs in the case of people with neurodevelopmental disorders; in particular, we are referring to people with Autism Spectrum Disorder (hereafter, ASD). As a result, the interaction and the educational relationship are disrupted and, thus, the behaviour appears as a functional or dysfunctional expression (adaptive or non-adaptive) to communicate the frustration and anxiety resulting from the poor understanding between what is demanded by one person and what is given by the other (Kodak et al., 2021; Leanne et al., 2021)[2,3]. That is why professional help is often required to establish coherently needs and demands by adjusting the system of aids and supports. This should be enhanced by an assessment to establish the *matching system between demand and support* and to develop a *scaffolding process* that enables people to learn and develop in their diversity and equal opportunities (Losada-Puente & Baña, 2022) [4].

Human diversity is a reality present in our societies, and we must understand it in all is breadth (Baña & Losada-Puente, 2016a, 2019)[5,6]. The differences that characterize the people with ASD may be understood in two directions: on the one hand, as people that have individual characteristics that defines their processes of thinking, behaving, acting… and whose diversity is accentuated by the sense of overcompensation they develops to understand, relate and behave in their socio-cultural environment; and on the other hand, they are people that have a disorder that affect them as their brain damage shapes particular processes and systems of access to information, communication, learning and development, that make them need resources and support for these processes of sensory reception and information processing in their learning and intellectual, emotional and social development.

Their diversity concerns the way they think, the way they feel and the way they relate to their physical, social and cultural environment but they can learn and develop in the world we live in as long as the systems of help and support meet their present and future personal demands (Losada-Puente & Baña, 2017; Losada-Puente et al., 2022)[7,8]. Their mental capacity is modifiable and, indeed, they adapt and modify themselves to their environment, even if sometimes their way of behaving is not understandable and does not allow an educational and communicative interaction that provides them with security, participation, and an adjusted relationship with it. Therefore, it is essential to influence their education for life with and among all the people who make it possible for them to learn the routines and habits for a harmonious and quality coexistence; their way of acting and expressing themselves depends on this, which is why their behaviour takes on a very relevant aspect, facilitating their development as well as their interaction and communication with their social and cultural environment (Baña &

Losada-Puente, 2016a,b, 2019)[5,9,6].

The main function of the intelligence was long believed to be having knowledge, but later the importance of the emotional intelligence was recognized and, currently, we are witnessing the discovery of an essential function and purpose of the intelligence: leading the behaviour through specific targets by using the necessary information and the management of feelings. It can be said that *we do not live to think but think to live.*

One of the first signs of the development is the progressive attainment of control over one's own behaviour, inhibiting internal impulses and being able to focus attention on continuous performance tasks (Baña & Losada-Puente, 2019)[6]. This means that the person progressively reduces distract ability, impulsivity and has greater control over his behaviour. Children are particularly sensitive to environmental influence, so educate their behavioural development is of greater importance for their adaptation to life and coexistence with others. It is known that all new or significant stimuli provoke a reflex in brain activity, facilitating forms of active behaviour that make it possible to address important environmental stimuli while ignoring those other that are superfluous, and then, develop more complex and relevant behaviours to the physical and social environment. The socially accepted behaviours enable to interact successfully in the environment and to inhibit less appropriate behaviours, plan for the future, modify novel situations… They are essential for neurotypical development; it can be said that *what we do, we see and, therefore, we act according to it, interpreting our behaviours but also ourselves*.

Communication makes the relationship between people possible, depending on t*he context in which it takes place* - without it, it would not achieve full meaning - and being necessary several aspects that make it *functional* and *intentional*:

On the one hand, to be a *functional communication* it must be clear (i.e. the listener pays attention to the message, the body language, facial expressions and the context) because the speaker tries to ensure that all the elements of the message move in the same direction and the other components of communication – such as emotion and behaviour – agree with the message sent (i.e. what is observed and makes one feel in accordance with this thought-action matching). Behaviour becomes vital in communicating with others and in facilitating our development and learning. It can functionally express or communicate agreement with our emotions and typical forms of group communication or it can become dysfunctional or maladaptive in a way that conveys misleading information. Therefore, behaviour is the object of analysis in our daily work and also the fruit of our mental processes and functions; *we behave according to what we think and in response to what we observe and do as a result of our behaviour*.

On the other hand, the *communicative intention* refers to what the person wants to express with his/her behaviour or what understands by the behaviour of others. The cognitive processes enable the individual to guide his/her behaviour through actions. Human brain – specially, frontal lobes and related areas – commands the body to fulfil certain functions. These functions are performed according to what is expected in a certain situation or *context-adapted functions.* An example could be the greetings between two people, since in this situation there are multiple processes: recognition of the person, identification of the appropriate social norm from among several possibilities and emotion of the action or functional behaviour – the greeting –. Another example would be a baby smiling when recognising its mother's face, reflecting recognition of its primary caregiver and joy at seeing her. In this situation the mother would react by talking to the child, picking it up and smiling at it.

These two examples show the three elements of social communication: the social interaction (by the relationship between emission-response of a behaviour), the cognitive factor and the communicative act. The possible responses reflect whether the externalised behaviour is adjusted or not, i.e. whether it complies with the expected social norms or, on the contrary, is not a socially accepted behaviour. Actions and behaviours that receive the most attention are the most repeated by children, increasing the complexity of their actions and expressions to adapt themselves to the demands of the environment and to learn how to interact with people around them (Trevarthen, 2003) [10]. This allows their behaviours to be corrected and reinforced by their caregivers, who in turn adapt to the child's rhythm and respond to their demand for hunger, affection, play… creating the bond that enable *affective and effective communication and facilitates appropriate development adapted to their environment.*

For that purpose, the human being should be able to detect the mental states in people's faces, gestures, voice, words, tone… and also recognize these mental states determined by the communicative intention to establish contact with the other person's thoughts and respond to his/her demand for social communication. Doing so makes it easier to learn about beliefs, perceptions, knowledge and to make inferences through the linguistic information they provide us with during communication. Rivière (1995)[11] points out that this is produced thanks to a cognitive system that is based on other non-cognitive skills that allow communication in a unique and distinct way for human beings - whether it is transmitting information, knowledge, describing desires... – modifying the mental states of others, not only interpreting them. This modification is the fundamental objective of human communication; when a message is expressed our intention is that the person who hears it will provide a desired response. Another process to take into account is the capacity that facilitates putting oneself in someone else's place; this capacity, known as empathy, consists of making inferences about what another person feels, thinks, says through what he or she expresses through words, gestures, movements, ... This capacity implies having prior access to the internal world of others through mechanisms

of primary intersubjectivity that enable us to live with others mentally (Rivière, 1995), both self-knowledge and knowledge of other people (Baña & Losada-Puente, 2019) [6].

What do we know about adaptive behaviour (AB) and Autism Spectrum Disorders (ASD)? Notes on the tools and considerations about the assessment of AB in ASD

The concept of *adaptive behaviour (AB)* became popular in the field of developmental disorders in the early 1960s, when the now American Association on Intellectual Developmental Disorders (AAIDD) defined *intellectual disability (ID)* on the basis of two criteria that must be present simultaneously during the developmental period before the age of 18: a significant impairment in intellectual abilities (two standard deviations from the mean) and in a person's adaptive behaviour or skills (Dell'Armo & Tassé, 2019; Grossman, 1983; Luckasson et al, 1992; Schalock et al., 2010, 2021)[12-16]. The inclusion of adaptive behaviour in the definition of ID obviously generates the need to assess it, thus favouring the creation of a number of tools to evaluate it (Montero, 1999; Losada-Puente & Baña, 2022; Schalock et al., 2019)[17,18,19] and to facilitate the elaboration of differential profiles.

The traditional model of behaviour of the early 20th century based on intellectual ability and the IQ has led to the widespread use of intelligence scales for the diagnosis of developmental disorders, neglecting other aspects that are as or more relevant to the lives of these people (Peegen & Freeman, 2017; Thompson et al., 2009)[20,21]. However, the difficulties experienced by people with ID in getting along in everyday life and meeting their most direct personal needs are becoming increasingly relevant (Barnoux & Landgdon, 2020; Montero & Fernández-Pinto, 2013; Schalock et al., 2019)[22,23,19]. Thus, new definitions and the need to address AB emerge, highlighting its modifiable nature through psychological and educational care (Casey et al., 2005; Price et al., 2018) [24,25]. These new ways of conceptualizing intellectual and/or developmental disabilities (ID/DD) have influenced other movements or systems of diagnosis and/or care, enabling the development of Quality of Life and Inclusion models and establishing the Supports Paradigm (Losada-Puente & Baña, 2022; Schalock et al., 2019) [4,19].

The understanding and treatment of behavioural disturbances has been in demand from many quarters, especially parents and educators. Traditionally and until recently, one of the solutions focused on eliminating the altered behaviour in two ways: by explaining to the individual the reason for the difficulty of his/her behaviour, or through negative reinforcement. However, what mostly happened when these strategies were implemented was that the disrupted behaviour was strengthened and reinforced (Casey et al., 2004) [26].

In recent years, a new *paradigm of person-centred behaviour* has emerged strongly, pointing out that each person has his/her own particularities when it comes to behaving, fulfils different objectives and obeys environments and situations that often determine the cause of

these behaviours (Barnoux & Langdon, 2020; Javaid et al., 2020)[22,27]. Likewise, behaviour is conditioned by the cultural environment, so that, interpreting a behaviour as assertive, aggressive, or inhibited should not be done in an exhaustive way (e.g., there are cultures in which people communicate in a higher tone of voice or by standing closer spatially than others and this has a natural, everyday context). Similarly, there are great variations depending on the role represented (e.g. with friends, family, colleagues, at school, at work…). Therefore, to *speak of adapted behaviour or not depends on the context and the person with whom we communicate and place ourselves*.

Nihira (1969)[28] defined AB as "the individual's effectiveness in adapting to the natural and social demands of his environment" (p. 869). Therefore, the AB is linked to the socialisation process, as people acquire the behaviours and values of the society in which they live (Dell'Armo & Tassé, 2019; Montero, 2006; Thompson et al., 2009)[12,30,22] and it is a muldimensional concept, since it is represented by a large number of areas or sets of skills necessary for the adaptation to the environment and the development of individual and community quality of life. In addition to this cultural character, the AB also has a strong evolutionary character, since the acquisition of the different adaptive skills depends on the evolutionary age of the person (Montero, 2006; Montero & Fernández-Pinto, 2013)[30,24]. For this reason, it is currently conceived as the set of conceptual, social, and practical skills learned by people to manage their daily lives (Luckasson et al., 2002; Schalock et al., 2007; Wehmeyer et al., 2008) [31-33].

Although AB is popular in the field of ID/DD, its measurement instruments have been extended to other fields such as the assessment of people with and without disorders. This is because the character of the behaviour exhibited by an individual in each context determines his/her degree of adaptation to the social and cultural environment, characterising his/her successes and failures in it. Nowadays, when we observe behavioural difficulties in schools and educational contexts, we find the need to provide students with functional and practical strategies and skills with which they can achieve the richest and highest quality daily life possible. In this way and given the relevance of behaviour in learning and in the development of people, the dimension that jointly defines a possible disorder has come to be considered in everyday life as an educational purpose.

When we refer in particular to the development of AB in people with ASD, we must first deepen our understanding of this disorder. ASD can have its origin or aetiology in various levels; at a biological level, it is not a disease, so it cannot be cured, but it determines a way of thinking and understanding. It does not cancel or diminish the condition of the person or his/her condition as such, although it can alter aspects of his/her behaviour, his/her way of thinking, acting, feeling... In this sense, the disorder will only be an expression of the specific or more global alteration in the person's ability to relate to their context and environment,

which will condition (favouring or hindering) their learning and development.

In order to understand ASD, it is necessary to know the disorder, but also the implications in communication, performance, behaviour, school and work performance, the relationship with parents and friends, other health, or cognitive difficulties, how they develop their daily life, interact, relate... Hence, attention programmes are complex, and this adds to the very wide variability between cases given their casuistry and the diversity between people and contexts. This difficulty does not mean that the knowledge currently available is not valid or useful, as research data corroborates the contrary; but it is important that the professional understands that the degree of understanding is still initial and that there are many aspects that are not clear and on which research must continue. This is not helped by many of the myths present today that come from explanations and conceptions of the past or are derived from unreliable or unreliable information, often in the form of hypotheses and with little or no scientific rigour.

It can be noted that people with ASD often present developmental disturbances in the form of peaks and valleys in many of the dimensions that explain human mental behaviour. Inclusive and mainstream education programmes, the development of adaptive skills and coordination between professionals, families and social, health and community services to provide adequate resources for inclusion are the way towards the implementation of quality of life levels on equal terms with the rest of the members of the community (Baña & Losada-Puente, 2016a, 2017)[5,7]; the challenges in these respects are aimed at pursuing the different resources and the multi-method approach that involves the adaptation and adaptation to each person in the context of all people that favour their learning and development.

ASD impairs *psychological and mental processes that begin during the period of development and includes difficulties in intellectual functioning as well as in AB in the conceptual, social, and practical domain*s. The following three criteria must be met in order to diagnose an ASD (American Psychiatric Association, APA, 2013) [34]:

- Alterations in intellectual functions such as reasoning, problem solving, planning, abstract thinking, judgement, academic learning, and experiential learning, confirmed by clinical assessment and individualised standardised intelligence testing.

- Alterations in adaptive behaviour resulting in failure to meet developmental and socio-cultural standards for personal autonomy and social responsibility.

- The onset of intellectual and adaptive disturbances occurs during the early developmental period.

The current classification systems include it in the neurodevelopmental disorders, a significant

advance towards the adoption of this framework in the models of quality of life and inclusion of people. One of the most significant references is the incorporation of a new dimension: *adaptive behaviour (AB)*. This is how difficulties in AB become indicators of support for ID, facilitating their educational attention and making possible a more open and interrelated understanding of developmental disorders. Despite this, we still encounter difficulties in establishing a diagnostic cut-off point for their assessment and educational attention (Navas et al., 2015)[35], perhaps because their dimension does not only affect people with ASD, given that there are a multitude of non-adaptive behaviours that appear in other people in different contexts. Likewise, we can talk about intellectual processes given that they not only affect people with ASD but also many other people, altering their lives but not preventing their adaptation and inclusion as in the case of the Theory of Mind or other intellectual functions discovered in this disorder but which are generalised to many of the behaviours of people in their diversity.

Despite the great diversity present in the characteristics of individuals with ASD, numerous researchers have highlighted the existence of these behavioural difficulties in individuals with ASD (Klin, et al., 2007; Kodak et al., 2021; Losada-Puente & Baña, 2022; Navas et al., 2015)[36,2, 4,35]. Therefore AB must be considered in the assessment of these individuals and is of utmost importance in the process of designing and developing attention plans focused on them (Cone, 1987; Kodak et al., 2021)[37,2]. The inclusion of AB in the definition of developmental disorders by the AAIDD has led to the need to analyse both this dimension and its assessment processes (Tassé et al., 2012, 2016; Schalock et al., 2010, 2021; Verdugo et al., 2021)[38,39,16,17,40]. This has favoured the creation of a large number of assessment instruments and tools for which the services and resources dedicated to the attention of people with ID/DD have become one of the main scenarios for the implementation of such tests.

Currently, the tools that assess AB are also essential for designing personalised attention plans (Cone, 1987; Montero, 1999; Verdugo et al., 2021)[37,18,40]; providing support throughout the care process and carrying out follow-up (Losada-Puente & Baña, 2022; Montero, 2006)[4,30] as well as to classify and describe groups of people according to various characteristics such as developmental age or clinical properties of each individual (Montero, 2006; Peegen & Freeman, 2017)[30,21]. For example, one could differentiate people with developmental disorders from neurotypical ones, or classify within the same category people with disorders that present the same level of competence, or differentiate the dimensions affected according to each disorder, environment, community… This makes it possible to ensure and improve communication and coordination between professionals from different fields (educators, psychologists, doctors, teachers...) when designing and conducting care. However, not all scales and instruments for the assessment of AB are suitable for all people, but it will vary according to the characteristics of each person (Reschly, 1990)[41], as well as

their demands and needs. Therefore, it is essential to take several factors into account when choosing one instrument or another. For example, whether the person being assessed has some kind of disorder, natural supports, their immediate environment, the context in which they live, their social class, their age… (Montero, 2006; Peegen & Freeman, 2017; Thompson et al., 2009)[30,21,22].

Most of the instruments are structured in areas of behaviour, which vary from one instrument to another (e.g. personal autonomy, communication, leisure and free time, motor area, sensory area...). Many of them pay special attention to behavioural disturbances or non-adaptive behaviours. This is because, among other reasons, it is frequent that the behavioural problems are hindering the learning of new adaptive skills and, in turn, that the deprivation of the learning of these skills is the cause of the appearance of the problematic behaviour (Montero, 2006)[30]. These problematic behaviours are characterized by Tamarit (2008)[42] as "behaviours to which people are not predestined but are the result of a difficulty in the skills of these people for social interaction, communication and carrying out actions of self-regulation and regulation of the environment" (p.1). This relationship is essential to consider non-adaptive behaviour within the assessment and care of AB, and has evolved enormously since the 1970s (Montero, 1999)[18]. In recent years, it has become increasingly popular that an essential part of the care -both educational and social- of people with developmental disorders is to carry out a functional assessment of their behaviour (Casey, et al., 2004; Howell et al., 2021)[27,43]. Functional assessment seeks to detect the motives or reasons why a person acts in a certain way to be able to design a behavioural support plan that fits their needs and demands (Canal, 2001)[44].

Although the assessment of AB and, consequently, the instruments used have evolved over time, it is currently very difficult to find a single tool with which to carry out both assessment and care in a homogeneous and effective way, so that many professionals are forced to use a set of instruments that they use at different times in their work. On many occasions, these instruments do not agree in terms of conceptual and technical coherence (Montero, 1999) [18]. Faced with this difficulty, the presence of the Assessment-Teaching-Assessment System provides professionals with a solution to overcome these situations. The System is composed of three conceptually and technically connected instruments that serve to assess and educate the AB of people with and without ID/DD (Montero, 2006)[30]:

a) *ICAP-Inventory for Individual Service Planning and Programming* (Bruininks et al., 1986)[45]: normative assessment of AB and problem behaviours focused on the strengths and weaknesses of the assessed person in comparison to a normative group. It has been designed to be completed independently by someone close to the person being assessed (educators, professionals, monitors...). Its interpretation must be conducted by qualified personnel (a recent review of the psychometric properties of this instrument with Spanish population with

and without ID/DD can be found in Losada-Puente & Baña, 2022)[4].

b) *CALS-Inventory of Adaptive Skills* (Morreau & Bruininks, 1991; Morreau et al., 2022) [46,47]: criterion-referenced assessments, which seek to compare the person being assessed with his/her own results, in the same tests or in relation to a previously established criterion. It consists of 814 ABs structured in four areas (personal life skills, home life skills, community life skills and work skills) which. provide a detailed assessment of the degree of development of skills related to autonomy and independence in different contexts. It is intended to be completed by anyone who has lived with the person being assessed for at least three months. Information obtained is used to design a personalised care programme and, in turn, to keep track of the learning that is being acquired.

c) *ALSC-Adaptive Skills Curriculum* (Bruininks et al., 1991)[48]: it aims to design specific and personalised attention processes based on previous assessments. It is a comprehensive curriculum that comprises 814 teaching units related to self-support, personal independence, and adaptive functioning in community, work, and other relevant social settings. Emphasis is made on the acquisition of functional learning in natural environments. Once the established attention plan has been carried out, the assessment enables to establish the next teaching objectives or, if it has not been satisfactory, to review, modify and improve the strategies or even to conduct a new assessment to adjust the areas in which it is necessary to implement new educational attention.

One of the advantages of these three instruments is their adaptability, as ICAP, CALS and ALSC can be used together or independently. In addition to these three tools, there are other instruments that has been designed and validated in different contexts around the world to assess AB. Some of the most popular – above all to assess AB in the ASD (Klin et al., 2007; Leane et al., 2021)[36,3] – includes: the *Vineland Adaptive Behaviour Scale-II* (Sparrow et al., 1984)[49], developed in the U.S. to measure AB from birth to 90 years of age and is designed to support the diagnosis of people with ID/DD; the *Adaptive Behaviour Assessment System-II* - known as ABAS-II - (Harrison & Oakland, 2000, 2003)[50,51]; the *Independent Behaviour Scales-Revised Edition* (Bruininks et al., 1996)[52]; or the *Diagnostic Adaptive Behaviour Scale (DABS);* among others.

While the development of these instruments will facilitate the work of professionals in this field, it is crucial to continue to advance in the research of other aspects, such as the possible existence of specific patterns of adaptive skills in groups with specific aetiologies (Losada-Puente & Baña, 2022)[4]. The results of studies of this type could provide highly relevant information to processes such as *Person-Centred Planning* (Verdugo et al., 2014), pointing out not so much the points to be developed in people, but rather the strengths from which to achieve those objectives that are really important for people with ASD.

1. An assessment, for what? Attention and development of the AB in ASD

Since the 17th of the last century, a considerable effort has been made by the scientific and research community to provide the quality of the assessment of AB with a set of tools that have increased its rigour and objective and concrete capacity (Losada-Puente & Baña, 2022; Price et al., 2018; Tassé et al., 2012; Thompson et al., 2009; Verdugo et al., 2021)[4,26,38,22,40]. The replacement of the ten areas by the current three - conceptual, social, and practical - has contributed to projecting significant units of assessment and attention, aimed at a kind of practical and social intelligence that allows the development of people, optimising their management and performance in the different environments of everyday life (Schalock et al., 2019; Tassé et al., 2016)[20,39]. In the same vein, in recent years, there has been a drastic change in the assessment of AB and in the tools used to deal with the disruptive behaviours of people with ASD, evolving over time and through experience. The use of *functional assessment (FA)* has made it possible to identify the function of problem behaviour, allowing for more personalised attention, which improves reinforcement-based procedures and consequently leads to a reduction in the use of more aversive techniques (Iwata, 1988)[53]. This prescriptive assessment remains the most important advance in applied behaviour analysis in the last half century because its results directly inform effective and innovative interventions and provides a controlled method for conducting research that studies environmental influences on behavioural problems (Saini et al., 2021)[54].

Therefore, Positive Behavioural Support (PBS) has emerged strongly as an alternative to punishment-based behaviour modification procedures. PBS is a process of attention that involves a series of educational procedures whose goal is to improve the quality of life of the person concerned (Barnoux & Landgdon, 2020; Javaid et al., 2020)[23,28]. Carr (1998) [55] defines it as “an approach to dealing with behavioural problems that involves remediating environmental conditions and/or skill deficits” (p. 1). That is, on the one hand, it points to the need for context modification before problem behaviour occurs, given that a large part of behavioural problems is caused by conflicts between the needs of the person and the context in which the person develops. By modifying this context, environmental or interpersonal, there will be a better fit between these two aspects and it will be possible for disruptive behaviour to be modified, so that the focus of attention is on the expectations of others, the type of treatment received, the establishment of meaningful relationships, aspects of choice, as well as other physical factors such as light, noise, architectural barriers, etc. (Canal, 2001; Saini et al, 2021) [44,54]. On the other hand, PBS emphasises the substitution of undesired behaviour through the teaching of alternative behaviours that are socially appropriate; as previously mentioned, both appropriate and inappropriate behaviours fulfil a function for the person who performs them (Barnoux & Landgdon, 2020; Tamarit, 2008)[23,42] so that, through the teaching of functionally equivalent skills, the person learns to obtain the same objectives as through the

problematic behaviour, but in an adaptive and appropriate manner.

According to Barnoux & Landgdon (2020)[23], Canal (2001)[44] and Javaid et al. (2020)[28], the PBS presents a series of aspects to be taken into account that are of foremost importance:

– Parents and teachers are not mere assistants, but actively collaborate with the professionals who conduct the care.

– Care is based on long-term planning and is maintained throughout the person's life.

– Functional assessment serves to anticipate problematic behaviour and is also essential in linking the results of the assessment to the most appropriate care programme for the individual.

– Care must be compatible with the person's daily life in the different contexts in which he/she lives (school, work, home, and community).

Another remarkably effective care procedure is *Communicative Attention*, known as the "approach that reduces or eliminates behavioural difficulties by teaching the person specific ways of communicating" (Carr et al., 1996, p.35)[56]. Problem behaviours constitute a means of communication in subjects with difficulties in communication skills, since behaviour is the most basic tool, we humans use to communicate. Therefore, to modify behaviour, the subject must be taught to communicate in a *socially appropriate* way, so that he/she understands the benefits that can be obtained through communication (Carr et al., 1996)[56]. A series of principles are on the basis of a correct Communicative Attention; that is:

- *Positive relationship:* it is essential that professionals establish a positive relationship with the person with whom the educational attention is carried out, so that he/she feels comfortable and at ease with them. This positive relationship should be worked on both from the beginning of the education and throughout the education. As soon as the person trusts the professionals, the next objective is to get him/her to initiate interactions, i.e. to get him or her to communicate and to learn that it is possible to influence others to get what he or she wants, without resorting to maladaptive behaviours. However, it should be borne in mind that communication can take many forms, and all should be welcome (grunts, signalling, simple sign language...).

– *Ways of communication:* the communicative behaviour should replace the problem behaviour, so it is essential to choose forms of communication whose purpose is the same as that of the problem behaviour (functionally equivalent behaviours) and, in turn, are more effective than the problem behaviour. For those individuals with ASD who cannot speak (or for whom it is too much effort) it is necessary to consider other communication systems (writing, sign language, gestures, picture boards...). An appropriate communication system for each

person must be chosen to ensure that it is understood by all and is therefore more effective than problem behaviour.

− *Appropriate contexts:* creating an appropriate context to favour communication with the person with ASD will be beneficial in strengthening and expanding his/her communicative repertoire. However, it is common for this development to be held back by a lack of opportunities to practice acquired communication skills since sometimes the situations that precede the problem behaviour do not occur naturally, so it is necessary to organise the context in such a way that they are artificially produced.

There are also a number of additional procedures to work from *Communicative Attention* (Carr et al., 1996; Baña & Losada-Puente, 2016b; Kodak et al., 2021; Losada-Puente & Fiuza, 2021; Losada-Puente, 2016)[56,9,2,1,57]:

1. *Teach them to tolerate waiting:* they should understand that sometimes they must wait for their demands to be met and do not need to resort to problem behaviour. Two possible strategies are: (a) explaining him/her that he/she must complete a task before his/her demand is met, so that there is a wait between the request and the receipt of what is desired; and (b) teaching him/her to differentiate when it is appropriate to make a request and when it is not (e.g. it is not appropriate to interrupt a person who is busy).

2. *Promote individual's ability to make choices.* Whether the individuals perceive that they do not have the opportunity to decide on all those issues that affect their daily lives, they would learn that they have little control over their own life and thus become passive. Therefore, it is essential to offer them opportunities for choice, to provide them with alternatives and to share control – what does not mean that professionals, families, or teachers should relinquish control, or allow the person to do what they want -.

3. *Use of the insertation procedure:* it is used when the establishment of orders triggers problematic behaviour. This procedure, which should only be used when the other methods do not work, consists of orienting the command towards a positive context in which the person feels at ease. It is based on the idea that they are more likely to comply with a command when they are happy and content.

2. The need for inclusion in AB and ASD.

The term *inclusion*, both as a model and as a reality to be achieved, represents a fundamental pillar on which policies and practices on the path towards education for all must be based. The behaviour of the person manifested through their diversity and the progress towards the development of more inclusive practices, as well as the implementation of the Quality-of-Life model, require a planned strategy of educational change (Baña & Losada, 2016a, 2019)[5,6].

Burstein (2004) [58] points to the following strategies: (1) embrace commitment to change - provide leadership for change, understand the need to address inclusive practices, look at inclusive models; (2) plan for change by developing a vision for inclusive practices, identify needs, set goals, develop a strategic plan; (3) prepare for change by engaging in professional development and provide technical assistance in classrooms; and (4) support change by maintaining administrative support, allocating resources appropriately to needs.

An update of these strategies is expressed in the new *Quality of Life and Supports Model*, which integrates three critical catalysts that generate changes in people's lives: *connections* (with other individuals in the immediate environment, generating social networks and making use of technology that provides opportunities for well-being), *interactions* (resulting from connections, and providing the support systems that facilitate personal functioning, interests and well-being) and *enabling conditions* (which are based on the development of opportunities and the provision of value-based supports) (Verdugo et al., 2021) [40].

Inclusion involves the whole of society, emphasising the need for a transformation of both the education system and the social system (Azorin & Ainscow, 2020)[59], which shows the need for society's conception and expectations towards people and students with ASD to change and progress towards this idea of inclusion and inclusive education, eliminating the social and educational stereotypes that still exist today and define them as *special*. This new education must be adapted and organised according to the needs of all, including those with barriers to presence, participation and learning (including people with ASD) in order to offer a quality and egalitarian educational response that eliminates all types of discrimination and inequality and avoids the person having to adapt to the educational environment and the environment facilitating the person's participation and learning (Fiuza et al., 2021)[60]. There is a need for professionals, families and citizens who have the sensitivity to learn both from their own personal experience and from interaction with people with ASD. This implies a change of perspective for many educational and social environments towards the culture of the co-operative approach, which is highly beneficial if diversity is conceived as a source of learning for all. Booth et al. (2005)[60] stated in this regard that:

The idea that the difficulties the child experiences can be resolved by identifying them as 'special educational needs' has important limitations. It implies a label that can lead to lowered expectations. It diverts attention from the difficulties experienced by other children who do not have the label, and from the source of the problem which may lie in relationships, cultures, the type of activities and resources, the way in which professionals support learning and play, and the policies and organisation of settings (p. 5).

Educational environments are an essential element to compensate for the difficulties of people with ASD, so that their needs and demands are met, and their personal and social

development is favoured (Fiuza et al., 2021)[60]. However, mention should be made of the barriers of the educational environments themselves to provide the most personalised quality education possible, as well as the lack of an inclusive culture both among educators and professionals and in the social and community structure itself, which in many cases do not have the commitment and conception that would result in educational practices that favour inclusion.

In the case of students with ASD, educational action should be aimed at improving their quality of life, based on the Supports Paradigm and on the learning and development of adaptive skills (Goñi et al., 2007)[62], so as to reduce their functional needs and their dependence on other people. To this end, they use supports, understood as the set of resources and strategies whose purpose is to promote the development, education, interests, and personal well-being of a person and which improve individual functioning (Luckasson et al., 2002; Baña & Losada-Puente, 2016a, b)[31,5,9]. Their correct use will facilitate the inclusion of people with ASD in mainstream settings and, consequently, improve their quality of life.

In this way, we can point out that people with ASD are not confronted with the concept of *Inclusive School*, but that diversity is conceived as a source of learning for everyone, understanding the difficulties presented by these people as an element that should receive help and support and not as a defect (Losada-Puente et al., 2021)[1]. Let us not forget that the ultimate goal of inclusive education is to provide an appropriate and personalised educational response to all, regardless of their needs, so that, through the necessary support and the appropriate staff, they can develop and have the richest and highest quality daily life possible (Baña & Losada-Puente, 2022)[19].

Numerous research studies have pointed out that many people with ASD have difficulties in the adaptive skills needed to manage in everyday life (Howell et al., 2021; Navas, et al., 2015)[21,35]. But it is not individuals with ASD who are characterised by disruptive and problematic behaviour (tantrums, aggression…) but rather the contexts that generate many of these behaviours (Javaid et al., 2020; Tamarit, 2008)[28,42]. This being so, it is possible to point out that adaptive behaviour can and should be educated from inclusive education, acting in the context from an ecological point of view (Bronfenbrenner, 1987)[63], so that they learn and develop the necessary skills that allow them to have an autonomous and happy life and, in turn, remove the barriers -social and physical- that prevent full inclusion, both in formal education and in other contexts of their daily lives (Baña & Losada-Puente, 2016a)[5,9].

Many authors (Kranz & Campos, 2020; Losada-Puente & Fiuza, 2021; Peer & Reid, 2021)[64,1,65] affirm the need to remove barriers, whether physical, communicative, social, or organisational, that make it impossible for children with ID/DD to have a good understanding of the environment in which they move. To this end, they propose strategies for adapting tasks

and activities according to their interests, the use of visual aids to improve understanding of the environment, as well as the teaching of adaptive skills that enable them to communicate with their peers and with adults to express their wishes, interests, needs, etc.; to develop social and emotional competence and to understand the point of view of others through the development of socio-affective skills (empathy, non-verbal communication...); and to regulate impulsivity through the use of self-control and self-instructions.

In order to carry out these adaptations, it is first necessary to understand that problem behaviours are intentional. They have a specific communicative purpose for the person (e.g. obtaining a toy or other material, attracting the attention of the educator, avoiding an activity that does not interest him/her, initiating or ending a social interaction...) (Carr et al., 1999; Canal, 2001; Casey et al., 2004)[66,44,27]. They are caused by a difficulty in the adaptive skills of these people, which leads to difficulties in carrying out a correct social interaction, establishing meaningful and functional communication systems, controlling their emotions, influencing others and the environment in an appropriate way… (Tamarit, 2008)[42].

It is also important to remember that not all people with ASD need the same support, as there is heterogeneity in these disorders and in the personal characteristics of each person (Leanne et al., 2021)[3]. Therefore, it is essential to consider that behind this type of alterations we find, in the first place, people who then and only then present the distinction of ASD that interacts with their diversity of life, individual, family... That is why supports must be flexible and personalised, being necessary to identify and evaluate the needs and educational demands of each person at a given moment, so that the type of help required can be decided, as well as the frequency and intensity of its use. Personalised support is the best way to improve the quality of life of people with ASD, for which it is important that support is as natural and standardised as possible (Baña & Losada-Puente, 2016b, 2022)[9,19].

Finally, it is worth reflecting on the fact that it is sometimes poor practice that causes some people's behavioural problems. As Sprague (2015)[67] states, some educational practices are not able to: (a) provide quality, personalised teaching adapted to individual differences; (b) offer sufficient experiences in which people have the opportunity to practice the adaptive skills they are being taught; (c) have an attitude that favours collaboration and cooperation with families; (d) implement PBS practices; and (e) favour the inclusion of people with ASD, adapting the context to their needs and demands.

3. To conclude: some ideas for behavioural and quality education for people with ASD

To achieve quality behavioural education that benefits people with ASD, it is essential, in the first place, to establish an Inclusive Education of all and for all (Baña & Losada-Puente, 2022; Fiuza et al., 2021)[19,60]. To achieve this, it is necessary, on the one hand, to understand

that this new concept of education implies a commitment to action and cannot stop at mere theoretical discourse. However, the independent actions of professionals are not enough, but the joint action of the whole community is vital, so that the establishment of inclusion is internalised as a common objective. On the other hand, educators must overcome and eliminate from their educational practice the traditional procedures of behaviour modification based on punishment and establish a series of quality behavioural actions. In this way, through the modification of the context and the teaching of skills that replace problematic behaviour, the climate of coexistence and the willingness of people to learn and develop will be facilitated.

The *Good Practice Guide on Positive Behavioural Support "Living Better"* (SIIS Centre of Documentation and Studies, 2011)[68] lists four actions that all educators, whose aim is to establish the most effective and appropriate behavioural education possible, should integrate into their educational care in such a way as to:

Firstly, ***the modification of the antecedents.*** The educator must design a personalised attention plan aimed at modifying both the context and the antecedents of the problem behaviour. For example:

- To avoid a particular circumstance that triggers the problem behaviour (e.g. if the person gets upset when bored, we will not ask him/her to perform tasks that are of no interest to him/her).

- To modify the circumstance (when it cannot be avoided) so that it does not become an antecedent to the problem (for example, reduce the time the child must do the activity that is boring).

- To intersperse unpleasant and pleasant or fun activities for the child (when the circumstance cannot be avoided or modified).

- To introduce pleasant situations to their classroom routine that favour the appearance of positive behaviours (for example, design activities considering their interests and preferences, let them choose the activities they want to do, the materials they want to use...).

- To eliminate or compensate for the impact that certain unavoidable situations (e.g. letting them rest when they are sick, allowing them to be alone when they are sad or nervous...) may have on the person (e.g. letting them rest when they are sick, allowing them to be alone when they are sad or nervous...).

Secondly, the ***teaching of alternative skills to problem behaviours***. There are three modalities of alternative skills:

- *Teaching alternative skills in the strict sense*. These skills have the same function as

the problem behaviour has for the person performing the behaviour (e.g., considering their language and communication skills, teaching them to ask for attention without the need to resort to the disruptive behaviour).

- *Teaching general skills*. Its development will allow the person with ASD to avoid situations that are difficult or problematic for him/her and/or to cope with them without the need to resort to negative behaviour (e.g. developing social interaction skills, communication skills...).

- *Teaching coping skills and tolerance*. Those skills that allow them to cope with or tolerate unpleasant situations that they cannot avoid (e.g. teaching them conflict resolution skills, tolerance of delay, teaching them to relax, self-control techniques...).

Thirdly, ***the establishment of actions based on consequences***. This type of activities, related to the actions of educators when they encounter the person when performing a problematic behaviour, aim to make him/her understand that, using alternative skills, he/she will be able to achieve the goals he/she wants in a more effective way than through disruptive behaviours. These actions are therefore only effective when combined with the other three. There are two procedures to follow:

1) reinforcing the person when he/she uses the alternative skills through actions such as responding immediately when he/she asks for attention through an alternative skill (language), congratulating him/her when he/she is able to wait to obtain something...

2) decreasing the effectiveness of problem behaviours by actions such as: ignoring the occurrence of the problem behaviour, offering corrective feedback (e.g. “remember that stories cannot be thrown on the floor”), redirecting him/her to another activity, helping him/her to transform the problem behaviour into an alternative skill...

Fourthly, and this is the most critical component of the PBS plan, ***the establishment of lifestyle interventions***. These actions favour the prevention of problem behaviours by improving their quality of life (Javaid et al., 2020)[28]. In recent years, this concept has gained special importance, being fundamental when defining the objectives of students with barriers to presence, participation and learning within the scope of mainstream and inclusive education (Baña & Losada-Puente, 2019, 2022)[6,19].

The need to improve the quality of life of people with ASD becomes evident when we think of the time when they become adults and must live an independent life, or when they have to look for and maintain a job. These two situations will be unattainable for them if they are not trained and prepared, through education, in the development and improvement of their skills for a self-determined life. Self-determination is a concept that guides the implementation

of the necessary changes in care practices, since the development of the necessary skills to be able to lead an independent and autonomous life must be one of the ultimate goals of care (Baña & Losada-Puente, 2016a, 2019; Losada-Puente, 2016)[5,19,57]. Thus, good practices in behavioural education should favour the greatest possible self-determination on the part of people, so that they can develop the necessary skills to be able to make decisions, resolve conflicts… independently.

Having rights and opportunities to exercise them help to achieve our own life project, but *what happens if I cannot or am not allowed to decide what life I want and/or do what is appropriate to achieve it?* In the school stage and both the family and the professionals of the educational services, guide the actions of the person according to what they believe is best for their lives and focus their work fundamentally on the development of their weaknesses and not on their abilities. *Is this way of acting ethical? Do we believe in people as much as we sometimes point out? Do we really think about the person, about the opportunities we provide for them to grow? Do we treat them equally and with dignity? do we think about their quality of life or the quality of life we want for them*? These are questions that lead us to reflect on our actions and the environments we design to be able to grow, interact and participate together with other people. The project to be developed must guarantee that every programme or action that is carried out in their education is aimed at achieving the quality of life of each person and that it is carried out in the best conditions of their community, which adapts and designs accessible environments rich in meaningful relationships to provide opportunities to grow and achieve the dreams of each person.

In short, the design of an educational process centred on the person and their life contexts must be a means to achieve this; the purpose of this process must serve to carry out actions that lead to improving the quality of life of the person, leading them to the achievement of their happy life project, a project that takes shape in their self-determination and development, making them feel more capable, more autonomous and of a quality that facilitates life for all between and with people.

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