



Why children with autism may engage in challenging behaviour? The environmental factors and typical people's behaviour



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(2011)

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Introduction:-

Autism is a developmental and lifelong disorder that was first described by Leo Kanner, a child psychiatrist, in 1943 (Ozonoff, Dawson, and Mcpartland, 2002; Parker, Jones, and Wheatcroft, 2008). Children who have this condition show difficulties in social interaction and communication. They display repetitive behaviour and narrow interests, which consequently reflects on their perspectives to the world and makes them interpret things differently from neurotypical people (Shaw, 2002 and Frith, 2008). Children with autism show little interest in other people and resist change in routines (Ozonoff, Dawson, and Mcpartland, 2002). Additionally, the condition affects the child's response to stimulations such as lights and sounds causing hypersensitivity or hyposensitivity to sensory input (Caldwell and Horwood, 2008). It is known as a spectrum, which means that no two children are alike in their abilities and difficulties (Frith, 2008).

Buschbacher and Fox (2003) indicated that young children with autism are at risk for displaying behaviours – often considered challenging by their parents and teachers- because of their developmental delay in language, communication, and social interaction. However, the environment itself can be the major cause of the child's behaviour when the environment is unsupportive and sensory-unfriendly (Willey, 1999). Thus, many researchers have suggested that attention must be shifted first to the settings or environments where the parents and teachers think that the child is behaving inappropriately to ensure, first, that the environment is not the source of the child's behaviour (Grandin and Barron, 2005).

As part of the teaching staff in the Special Education Department at a Saudi University, I hope this paper will play a role in enhancing teachers' understanding of children with autism's behaviours and in helping them design supportive and autism-friendly environments that meet the unique needs of



children with autism, which hopefully, will reflect on the quality of their education and life in general.

This paper is divided to three parts. *Part 1* will be a starting point and guide towards better understanding of the behaviour that is often considered challenging by parents and teachers. It also will show how to identify the function of a specific behaviour. *Part 2* will discuss the environmental factors that can trigger challenging behaviour and the different situations where the behaviour is more likely to occur. It is divided to three parts: the sensory environment, the learning environment, and the social and communication environment. Finally, in *Part 3*, some strategies will suggest how to create an autism-friendly environment that removes unnecessary barriers, meets the child's unique needs and supports his learning in a welcoming and supportive environment.

Steps towards better understanding of the behaviour

Garside et al (2000) pointed out that a good starting point towards better understanding of the challenging behaviour is to consider it as a problem to be analyzed and solved. It is important, before moving to any behaviour intervention, to ensure that the environment itself is not the trigger of the behaviour (Grandin and Barron, 2005). Otherwise, there is a great possibility of applying a behaviour intervention that does not meet the child's unique needs and which will result in a continued behaviour problem.

Many sophisticated experimental studies have demonstrated that challenging behaviours shown by children with autism usually have a communicative function. Therefore, teachers and parents have to develop a systematic exploring process aimed to identify how the child expresses his or her needs in particular situations or environments (e.g. seeking assistance, obtaining objects or food). This will help in indicating the function of the behaviour that is usually considered 'inappropriate' or challenging, such as



aggressive behaviour, self injury behaviour, screaming or hitting (Howlin, 1998; Ozonoff, Dawson, and Mcpartland, 2002).,

Ozonoff, Dawson, and Mcpartland, (2002) have categorized the functions of the behaviours that are often considered challenging by teachers and parents into five categories (Table 1). They suggested that the common messages that children with autism try to express are the following: indicating confusion, expressing feeling, escaping a situation, expressing strong need for predictability, trying to reach desirable object or seeking social engagement.

Common things that children try to tell us through their difficult behaviours include the following:

Messages indicating that the child is confused and needs assistance:

"This is too difficult for me"

"this is confusing for me"

"I can't remember what I am supposed to do"

Messages expressing a feeling"

"I'm hungry "

"I'm sick"

"I'm mad/sad/scared"

Messages indicating that the child wants to escape from the current situation:

" I don't like this and want to quit"

" This situation is too stimulating for me"

"I need some personal space"

"When will I be done? How long will this go on?"



Messages indicating that the child has a strong need for sameness, predictability, and routine:

"I feel overwhelmed by these new (or unstructured) activities."

"I expected things to be the same as before"

"I don't want to stop doing what I am doing (for example, favourite activity)."

"I'm not sure what happens next".

Messages indicating that the child wants to access something or socially engage with someone: but doesn't know how:

"Give me that (object, item, food)."

"I'm bored and want your attention."

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"I want to play with you".

Table (1): What does the child communicate with the challenging behaviour? (Ozonoff, Dawson, and Mcpartland, 2002)

According to Durand and Carr's (1991), Carr's (1994), and Howlin's (1998) classifications, usually the function of the behaviour fits in one of the following categories: attention seeking, self-stimulation, escape or avoidance, demands, or requesting help or assistance.

In addition to these functions, in some circumstances, children with autism may not be able to make sense of the world around them; therefore, they engage in behaviours (such as self-stimulation behaviour) for the sake of comfort and to de-stress tension. Stress, anxiety, or fear can have significant negative influence on the child's behaviour (Simon, 2010 and Howlin, 1998). Another function of some behaviour is that it can be the child's way of obtaining or avoiding certain sensory input from people, activities, or situations, as Lovannorn et al, (2003) suggested.

Any of these communication messages may be behind the child's behaviour. Although it is not always easy to understand the behaviour's



function, paying enough attention to the context, the circumstances, and the consequences of the behaviour is the key towards understanding the real causes of the difficult behaviour (Ozonoff, Dawson, and Mcpartland, 2002). Ozonoff, Dawson, and Mcpartland, (2002) suggested developing a systematic observation for the targeted behaviour. They suggested that the observer record the time and place, and describe the situation when the behaviour occurs, and note the following consequences in order to understand the big picture.

Bliss (1999) suggested the following questions that may help parents and teachers in gathering information during the observation process:

- Does the child prefer noisy or quiet places?
- Are there particular stimuli that seem distressing to the child?
- Does the child have a way of removing himself from a distressing place?
- Is the difficult behaviour confined to particular times?
- Does the difficult behaviour appear to be related to who is around him (people, objects)?
- Are the places where the child spends his time roughly similar in terms of set routines and clear expectations?

After several days of observing the targeted behaviour, some themes may emerge and possibly teachers and parents will find some environmental factors such as specific times, places, people, or certain activities that are triggering the difficult behaviour, which will be the focus of the following section.

Environmental factors may trigger the behaviour that is considered challenging: -

Many situations make the child with autism stressed, confused, uncomfortable, and unable to communicate or socialize appropriately with



others. Caldwell and Horwood (2008) indicated that sometimes the environmental factors can even affect the individual's ability to process information and respond appropriately even for children with high-functioning autism or Asperger syndrome. These environmental triggers to difficult behaviours can be divided into three categories: the sensory environment, the learning environment, and the social and communicative environment.

The sensory environment

The impact of sensory stimulation on children with autism can be significant on their everyday life. Jackson (2011) indicated that for many children with autism the sensory issue could be more problematic than the difficulties that are associated with social and communication interaction. The child with autism may be hyposensitive or hypersensitive to stimulations that do not cause any issue for neurotypical people. Hyposensitivity means that the child's brain is under-stimulated from "sensory input" and not receiving enough stimulation (Caldwell and Horwood, 2008; Kranowitz, 1998). Consequently, the child may try to seek more stimulation from his environment in order to satisfy this need; he or she may bump into people or lick or taste objects (Kranowitz, 1998). On the other hand, quite a large proportion of children with autism are hypersensitive to stimulations in their environment. They can be overwhelmed by stimulations such as bright lights, sounds, touches, and smells that are not noticeable to neurotypical people and that do not bother them (Lovannone, Dunlap, Huber, and Kincaid, 2003; Jackson 2011 and Kranowitz, 1998). The influence on the child's behaviour can be "complete withdrawal" or escaping "from the source of their discomfort" (Jackson, 2011).

Sensory stimulation, too much or too little, can "drain" the child physically, mentally, and emotionally. Additionally, it can cause a great feel of confusion, stress, anxiety, fear, pain, or discomfort (Caldwell and Horwood, 2008; Bliss, 1999; Simone, 2010; Paley, Stirling, and Wakefield, 2008).



The common signs of sensory problems that teachers and parents may notice in the child will vary depending on the type of the stimulation and the child's level of sensitivity. For instance, the child may screw his eyes up when he is in a room with bright lights (e.g. fluorescent lighting) (Caldwell and Horwood, 2008). Some children may cover their ears to block sounds that may be hardly heard and are not annoying for neurotypical people (Kranowitz, 1998). Table (2) shows how these sensory issues influence the child's behaviour depending on the type of the sensation and the child's level of reaction.

The oversensitive child seeks less stimulation	Sensations	The under sensitive child seeks more stimulation
The child avoids touching or being touched by objects and people. She may react with a fight-or-flight response to getting dirty, to certain textures of clothing and food, and to another person's unexpected light touch.	Touch	The child may be unaware of pain, temperature, or how objects feel. She may wallow in the mud, paw through toys purposelessly, chew on inedible objects like shirt cuffs, rub against walls and furniture, and bump into people.
The child avoids moving or being unexpectedly moved. Insecure about gravity, he may be anxious when tipped off balance. He may be earthbound and avoid running, climbing, sliding, or swinging. He may feel seasick in cars or elevators.	Movement	The child may crave fast and spinning movement, such as swinging, rocking, twirling, and riding merry-go- rounds-without getting dizzy. The child may move constantly, fidget, and enjoy getting into upside-down positions; he/she may be a daredevil.
The child may be rigid, tense, stiff, and uncoordinated. She may avoid playground activities that require good body awareness.	Body position	The child may slump and slouch. His actions may be clumsy and inaccurate. He may bump into objects, stamp his feet, and twiddle his fingers.
The child may become overexcited when there is too	Sights	Although able to see, the child may touch everything to learn



much to look at - words, toys, or other children. He may often cover his eyes, have poor eye contact, and be inattentive when drawing or doing desk work, or overreact to bright light. He may be hyper-vigilant, on the alert, and ever watchful.		about it, because her vision is not sufficiently coordinated. She may miss important visual cues such as another person's facial expressions and gestures as well as signposts and written directions.
The child may cover his ears to close out sounds or voices. He may complain about noises that do not bother others, such as vacuum cleaners and blenders.	Sounds	The child may ignore voices and have difficulty following verbal directions. He may not listen well to himself and speak in a booming voice. He may want the TV and radio to be loud.
The child may object to odours that other children do not notice, such as a ripe banana.	Smells	The child may ignore unpleasant odours like dirty diapers. She may sniff food, people, and objects
The child may strongly object to certain textures and temperatures of foods. He may often gag when he eats.	Tastes	The child may lick or taste inedible objects, like play dough and toys. He may prefer very spicy or very hot foods.

Table (2): The child's interaction towards environmental stimulation (Kranowitz,1998).

The learning environment

Schools are one of the most sensory-unfriendly environments for children with autism. (Grandin and Barron 2005). Eliminating distracting stimulations can be challenging for the child with autism and they can be a barrier to his learning and limit his abilities and opportunities in the school (Shaw, 2002). Additionally, the physical organization of the classroom and the arrangement of the furniture can also have an impact on the child's behaviour in a negative way when it is unstructured or when it is changed from the usual (Clements, 2005). Unpredictable changes in school routine can also be a cause of challenging behaviour (Howlin, 1998; Lovannone, Dunlap, Huber, and Kincaid, 2003). Howlin (1998) indicated that an unpredictable and



confusing environment is one of the causes of the ritualistic obsessive behaviours in children with autism.

Another possible environmental factor in the learning environment is the school activities (Ashdown and Jones, 2008). The activities may be challenging for the child with autism when they lack sequence or when teachers do not give clear explanations of how to perform certain tasks. The child may also not be able to understand the reasons behind doing certain tasks, which may leave the child confused and not capable of making sense of what is happening or what is required. In addition, children with autism often have their own special interest. When teachers do not value that, the challenging behaviour is more likely to occur in the learning environment (Seach, Lloyd and Preston, 2002). Having low or high expectations from the child can also trigger the difficult behaviour as Bliss (1999) indicated. Lack of preparation for transitions between activities may also be a triggered. Children with autism need structured and predictable environments that allow them to understand what is happening now and what will happen next.

In terms of unstructured situations, such as break time, lunch time, and the time after the school day, Thorpe (2009) indicated that "all pupils with an ASD can have problems during unstructured time". In my experience, the child has a feeling of isolation, stress, or confusion in these situations due to the significant demand on social interaction, which is one of the core areas of difficulties for children with autism (Frith, 2008; Betts, Betts and Gerber-Eckard, 2007). Free times in the school require social interaction with peers and a good understanding of the rules of conversations (Betts, Betts and Gerber-Eckard, 2007). Lack of awareness among peers and the school staff about the difficulties that the child with autism experiences in these situations and lack of support are environmental factors that can trigger the difficult behaviour.



Finally, regular classrooms can be demanding places for children with autism in regards to social expectations, communication skills, and the use of language, which will be the focus of the next section 'the social and communicative environment'.

The communicative and social environment

Teachers who do not consider communication difficulties that children with autism have are more likely to face challenging behaviour as a result of the child's inability to express himself or herself in an appropriate way to satisfy needs, ask for assistance, or express their feelings (Ozonoff, Dawson, and Mcpartland, 2002; Lovannone, Dunlap, Huber, and Kincaid, 2003). Although challenging behaviour may occur due to poor communication skills, the way that typical people communicate with the child plays a vital role in reducing the difficulties that face the child in his interactions with other. Buschbacher and Fox (2003) argue that when neurotypical people do not provide clear ways of communication, the child on the autism spectrum is more likely to be engaged in challenging behaviour.

In terms of the social environment, there are many factors that can trigger the difficult behaviour such as the number of people in certain situations, being physically close to others, and difficulties in understanding social behaviours of other people (Clements, 2005). In addition, many situations can be socially demanding for the child with autism, which may lead to a feeling of stress, anxiety, and discomfort due to the difficulties that face the child in terms of relating to others or predicting and understanding their behaviour (Clements, 2005 and Lovannone, Dunlap, Huber, and Kincaid, 2003). This can lead to avoidance of social engagement, which will consequently isolate the child from his peers (Clements, 2005).



How to design an autism-friendly environment:-

Creating autism-friendly environment means designing an environment free of barriers that may limit the child's abilities or affect his behaviour negatively (Paley, Stirling, and Wakefield, 2008). The modification of the environment will vary from child to child depending on his or her needs (Howlin, 1998). This section will focus on how to make the school environment autism-friendly for children with autism by modifying activities, communication and social interaction and by meeting the child's sensory needs.

Modifying activities and the learning environment

The fundamental aim of modifying the environment is to maximize the learning outcomes for the child with autism (Buschbacher, and Fox, 2003). Schopler and Mesibov, (1994) indicated that when the environment does not fit the needs of the child with autism, the learning process can be affected negatively. It may cause feelings of anxiety, stress, or frustration, which consequently leads to behaviours that are considered challenging by teachers and parents.

Challenging behaviour is less likely to occur when the classroom materials are well organized and when the activities are clear and understandable (Emerson, McGill, and Mansell, 1994). It is important to ensure that the instructions given are clear and easy to understand. Providing them in written or picture form can support the child's understanding (Betts, Betts and Gerber-Eckard, 2007). In addition, tasks have to fit the child's ability and interest. Sometimes the child with autism may try to avoid activities that he or she does not enjoy; reducing the length of unavoidable tasks can be a solution in such situations (Ozonoff, Dawson, and Mcpartland, 2002).



Structure is an important component in designing autism-friendly environments. It helps the child to organize him or herself, reducing anxiety and giving the child some control over his or her environment, which helps him respond appropriately to the learning environment (Howlin, 1998). This structure also refers to clear and comprehensible curriculum, which includes environment, transitions between activities, and activity schedules. A predictable environment allows children with autism to understand what is happening currently and what will happen next during the school day (Lovannone, Dunlap, Huber, and Kincaid, 2003).

Another important point is that the environment has to be predictable as much as possible. Children with autism are more likely to feel anxious and stressed in situations that lack structure. It is important to ensure that the learning environment is predictable and structured. This can be achieved by establishing a routine, providing consistent rules, and minimizing unnecessary changes (Ozonoff, Dawson, and Mcpartland, 2002; Howlin, 1998). Willey (1999) indicated that avoiding unpredictable changes or keep them to a minimum is a very important component in creating a supportive environment for children with autism.

In terms of transition between activities, it is important to ensure that the upcoming transition is clearly indicated by giving clear spoken, visual, or written instructions depending on the child's level of ability (Clements, 2005). The use of video priming intervention to decrease challenging behaviour during transitions can be also an effective tool. Video priming intervention is "a practice that previews information or activities that usually triggered problem behaviours with the child before he or she actually becomes involved in the activity"; it helps in reducing problem behaviours by allowing the child to predict the sequences of the upcoming activity. According to Scheribman, Whalen and Stahmer's study (2002), which was on three children, the use of video priming intervention had helped these children generalize to transition situations for which they are not trained. Additionally, the three children were



able to maintain the skills they had learned after the study (cited in Lovannone, Dunlap, Huber, and Kincaid, 2003).

Modification of communication

It is important for teachers to pay more attention to the language that they use. They have to be more attentive in terms of the difficulties that the child has in understanding metaphors, slang, irony, and long instruction, which are more likely to cause confusion, anxiety, or misinterpretation by the child with autism. It is essential to simplify instruction and information that is given to the child with autism. Supporting verbal instruction with written or pictorial cues can maximize the child's ability to communicate and respond appropriately to others (Howlin, 1998).

In addition, as mentioned previously, the challenging behaviour is often a form of communication behaviour. Thus, it is important to teach the child with autism more appropriate ways to communicate his needs. The new ways of communication can be thought by modelling the behaviour, giving the child the opportunity to practice the new skill, and prompting him, if necessary, during targeted situations. This will help in reducing the possibility of communicating his needs with challenging behaviour (Ozonoff, Dawson, and Mcpartland, 2002).

Modifying the Social environment

Children with autism are more likely to have a sense of aloneness and isolation, especially during unstructured time such as break and lunchtime. Therefore, teachers and schools staff have to pay more attention during these times. Raising awareness among peers and the school staff about the child's needs is essential. Besides teaching the child with autism the social skills that he lacks, it is important to ensure that some social activities during free time are being arranged by the help of peers (e.g. group



discussion) so that the child with autism can practice the social skills that he has learned and be engaged in the social activities (Emerson, McGill, and Mansell, 1994; Thorpe, 2009; Betts, Betts and Gerber-Eckard, 2007). For some children the social demands of in-group activities inside or outside the classroom may make them distressed. Thus, in some cases, letting the child carry out other tasks can help.

In addition, providing a safe place where the child can go is important in creating an autism-friendly environment. Children with autism often have a "real need for solitude" or they may experience stress and anxiety and need a safe area where they can go. This area could be the computer room, the library, or a place of the child's choosing (Howlin, 1998 and Thorpe, 2009).

Modifying the sensory environment

Many children on the autism spectrum experience sensory difficulties in the school. The classroom can be a terrifying and painful place for the child with autism if his sensory needs are not taken into consideration by teachers and school staff.

Try to reduce the amount of sensory information that the child is required to process (Caldwell and Horwood, 2008). If the child is over-stimulated by light or sounds, try to reduce these distraction by "creating an area free from distraction" or an "individual workstation," for example. Additionally, avoid the use of florescent lighting and block external noises by closing doors and windows. Before moving to crowded or noisy places, prepare the child for these situations in order to reduce the child's level of discomfort (Ozonoff, Dawson, and Mcpartland, 2002; Wilkes, 2005). For children who are hyposensitive to stimulations, provide the stimulation that the child needs. For instance, increase the use of visual cues and indicate the boundaries of the different areas of the classroom by using "coloured tape on the floor." Offer access to a sensory room, if available, in order to help the child stimulate his



sensory system. The multi-sensory environment helps children with autism in regulating their sensory system. The sensory room can be a dark or white room has different equipment such as "soothing music", "soft play resources", "disco lights" and "projectors". Although there is limited research on the benefits of the sensory room, personal experience and observation show that it helps many children with autism by stimulating their sensory systems. Besides its relaxation function, the sensory room is also considered as an educational and therapeutic environment for children with autism (Wilkes, 2005).

Modifying the environment to meet the needs of children with autism is "an important form of support" (Yoshida, 2007). Even if these changes seem simple and small, they can make great differences in the child's experiences in the school and it can significantly enhance the child's academic performance.

Conclusion:-

This paper aimed to draw attention to the environmental factors that are affecting the behaviour of children with autism. It gave an idea of the communicative functions of the challenging behaviour and discussed the common messages that the child with autism may communicate through difficult behaviour; it also explained how these behaviours are possibly linked to specific situations, activities, or people. The second part focused on the environmental factors that may trigger the child's behaviour, which were divided into three areas: the sensory environment, the learning environment and the social and communicative environment. Finally, it focused on how barriers can be removed from the child's environment by taking a close look at the child's unique needs and using them as a basis to determine the appropriate modification needed. Creating an autism-friendly environment can have a significant, positive influence on the child's learning and interaction with others and the surrounding environment.



Paul, an individual with autism, has accurately described his ideal learning environment as "a cool silent room, away from other people, surrounded by high screens which block my view of others, sitting at a desk facing white walls, with no windows nearby, and nothing on the walls to distract me, with low level lighting and no interruptions. If all this was in place, I could concentrate and do the job" Jackson (2011). Making mainstream schools autism-friendly environments for children with autism means making schools more inclusive and supportive for their learning.



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