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Social Skills Assessment and Suggested Intervention Plan in a Teenager with William Syndrome

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ABSTRACT: *Williams Syndrome (WS) is a neurodevelopmental disorder which can affect equally both genders. It is a genetic disorder which is associated with hemideletion of 28 genes on chromosome 7q11.23. In our case, we have a 16-year-old girl with WS who engages to inappropriate social behavior (i.e., inappropriate contact). The purpose of this assignment is to analyze the assessment data and based on them, propose and implement effective and individualized treatment strategies to prevent and decrease the occurrence of the target behavior. Part of this research study is also to provide mediator training to the teacher.*
KEYWORDS*:* Williams syndrome, social behavior, assessment, intervention, mediator training

INTRODUCTION

Williams Syndrome (WS) is a neurodevelopmental disorder which can affect equally both genders. It is a genetic disorder which is associated with hemideletion of 28 genes on chromosome 7q11.23. Individuals with WS have specific physical and medical phenotype, and their cognitive profile is accompanied with medical problems, such as dysmorphic facial characteristics, cardiac diseases, problems with their visual, gastrointestinal, renal, and musculoskeletal function. Most of the children who have been diagnosed with WS have developmental delay which is accompanied with mild to moderate intellectual disabilities and/or learning difficulties (John et al., 2012).

Operational Definition

Inappropriate contact is defined as any time our client, named Katrina, engages to any physical contact with other students and/or teachers (i.e., hug them, touch their face or other body parts), or she stands very close to them (i.e., ~ 1 foot away or 6 inches away) to talk to them. Non-examples include, Katrina talking to other students and teachers with a distance more than 1 foot and/or 6 inches away, without approaching them very close or touching them.

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Bio-psycho-social Assessment

Biological Factors

Katrina has been diagnosed with Williams Syndrome, which is a rare complex neurodevelopmental disorder which occurs due to the hemideletion of 28 genes on chromosome 7q11.23 and it is estimated to be appeared to 1 in 7500 births, and both genders can equally be affected. Based on her biological profile, Katrina faces fine motor coordination challenges. More specifically, individuals who have been diagnosed with WS, often have muscular and skeletal abnormalities (e.g., scoliosis, joint abnormalities, decreased muscle tone, etc.). These abnormalities may lead to fine and gross motor coordination deficits (Berencsi et al., 2016).

Psychological factors

After the analysis of the psychological factors, we identified that Katrina, has been also diagnosed with moderate intellectual disability. Based on research studies, the IQ of individuals with WS, most of the time, is characterized as mildly to moderate (i.e., ~ 50-60 IQ points) (Mervis & Velleman, 2011). Even if Katrina's IQ is in moderate levels, she has very high verbal ability (i.e., she can do questions, phrases more than two words). Based on Martens and his colleagues (2008), individuals with WS may have low cognitive IQ, but their verbal IQ is often significant in higher levels than the performance IQ scores.

Moreover, based on Katrina's psychological profile, it seems that frequently engages to inattention, to impulsivity, and sometimes she is hyperactive. Due to her inattention, Katrina, has difficulty to pay attention to teachers' instructions. She is also hyperactive, especially when she is excited with something then, she engaged to jumping, running, and shouting. Another psychological issue is her impulsivity, during which Katrina has difficulty to wait for her turn and she is interrupting other peoples' conversation without being requested.

Studies have identified that individuals with intellectual disabilities and WS, present difficulties in concentration, and they fail to pay attention and stay focus on their activity, so frequently they shift from one task to another without complete the tasks. Their hyperactivity and impulsivity, are often described as difficulty to remain on their seat, running, and jumping during inappropriate situations, difficulty to wait for their turn (e.g., during conversations), and very often interrupting others' conversation (they do not know who and when they should "interrupt").

The last psychological factor is her anxiety. Katrina when she does not take the attention that she wants or when someone reprimand her, then she says sorry, she is holding her hands together, she looks sullen and she is walking away, which makes her feeling anxious and stressed. Individuals with WS, have high levels of anxiety and fear especially when they being teased and when they get reprimanded. The levels and the intensity of anxiety used to go up to higher levels especially in school, and may lead to the occurrence of maladaptive behaviors.

Social Factors

Katrina is very friendly with everyone and inquisitive, and she does not have any friends outside of school committee. Her only friends are the colleagues from Girl Guides and some relatives with whom she likes to be in touch. Hyper-sociality is one of WS's characteristics which can be a trigger for the individual. Most people with WS are very friendly, happy, and polite and they like to approach familiar and even unfamiliar people without being able to understand potential risks of doing that. Social disinhibition make people with WS vulnerable to any kind of exploitation (e.g., physical, sexual, financial etc.).

Individuals with WS, have a remarkable behavior and personality, as they show extreme interest in people, compare with other retarded groups. They are very cheerful, warm, outgoing, and empathic towards other people. One of their social deficits, is that they are more approaching toward strangers/novel people, curious, affectionate, and extremely friendly (Tager-Flushberg & Sullivan, 2000). Their sociable characteristic can be a considerable weakness. Based on Fluit and his colleagues (2012), children with WS have lack of social regulation and are more willing to approach a stranger, compared with typical development children. Based on another study, these people also have difficulties to establish and maintain friendships (John et al., 2012). Another research (Järvinen et al., 2013) study focused on the social behavior of individuals with WS and pointed that most of the time their social contact is inappropriate and accompanied by difficulties in social adjudgment and social judgment, which often characterized by an excessive desire to approach others, even without knowing them. Those individuals' cognitive and intellectual limitation are responsible for the excessive friendly and kindly profile which show individual's social vulnerability which at the same time can lead to bullying and abuse etc.

People with WS, may have good social skills, but parents' report showed the opposite. More specifically, another study showed that parents reported that their kids faced difficulty to establish and maintain friendships, and at the same time they experience social difficulties, such as social isolation and disinhibition. Individuals with WS used to ask other people inappropriate questions and have difficulty to take part to "cocktail party speeches" (Stojanovik & James, 2006). Tasman and his colleagues (2007), stated that people with WS are overenthusiastic and have intense eye contact which might lead to social difficulties. They also have difficulty to understand the difference between jokes and lies and they also have difficulty with theory of mind.The last study demonstrated that people with WS are characterized by an attraction to novel/stranger people, direct eye contact, and bias toward focusing on other peoples' face. These people are very interest to unfamiliar people since their infant age and that occurs due to lack of stranger anxiety (Järvinen et al., 2013).

Assessment

To identify the function of Katrina's challenging behavior, initially we had to conduct a Functional Behavioral Assessment (FBA). The FBA includes variety of techniques and approaches which help behavior analysts (BA) to identify the potential cause of a behavior and develop the most effective treatment plan for their client. Through FBA, BA's can identify all the factors (e.g., biological, environmental etc.) which are responsible for the occurrence of the

target behavior. We conducted Functional Analysis (FA), we collected A-B-C data, QABF data, we also conducted preference assessment, and lastly we implemented interobserver agreement (IOA).

Functional Analysis

The functional analysis is a measurement tool which have been widely used, from many BA's to identify the function(s) of the behavior and the potential factors which maintain the occurrence of the target behavior. During FA, BA's observe the behavior under different "environmental" conditions. At the end of the FA, the results will show the sources of reinforcement which are responsible for the occurrence of the challenging behavior (Iwata & Dozier, 2008). In our case, the FA, conducted across three conditions; reprimand, attention, and social enrichment. The FA, conducted in Katrina's classroom setting and took place across 6 consecutive school days and lasted for around 1.5 hours. For the FA, the teacher and the educational assistant (EA) participated.

During reprimand condition, the teacher and the EA, did not pay a lot of attention to Katrina (i.e., minimal verbal, physical, and eye contact). One of them was looking Katrina, but paid more attention to other students. Every Katrina engaged to inappropriate contact, then the teacher or the EA immediately reprimand her. During attention condition, teacher and EA followed the same steps, with the only difference that every time Katrina engaged to her challenging behavior, then one of them immediately provide attention to Katrina (i.e., touch on her shoulder, smile, make comment). During social enrichment, teacher and EA continuously interacted with Katrina. Every time she attempted to engaged to inappropriate behavior, they did not react, they did not reprimand her, and the only thing that they did was to just withdraw their attention for around a minute, by helping other students.

Based on the graph and the analysis of the FA data, we identified that Katrina on day 1 engaged four times in inappropriate contact during reprimand condition and three times on day 4. For the attention condition, she engaged six times in inappropriate contact (day 2) and eight times (day 6). During the social enrichment condition, it is significant clear that Katrina engaged less times in the target behavior, more specifically, only once, during day 3, and not at all during day 5. The total number of times that Katrina engaged in that behavior, during reprimand condition was seven times, during attention fourteen times, and during enrichment one time. Based on that, Katrina's behavior occurs more often during attention condition, which means that the function of her behavior is maintain by attention-reinforcement variables (**Figure 1**).

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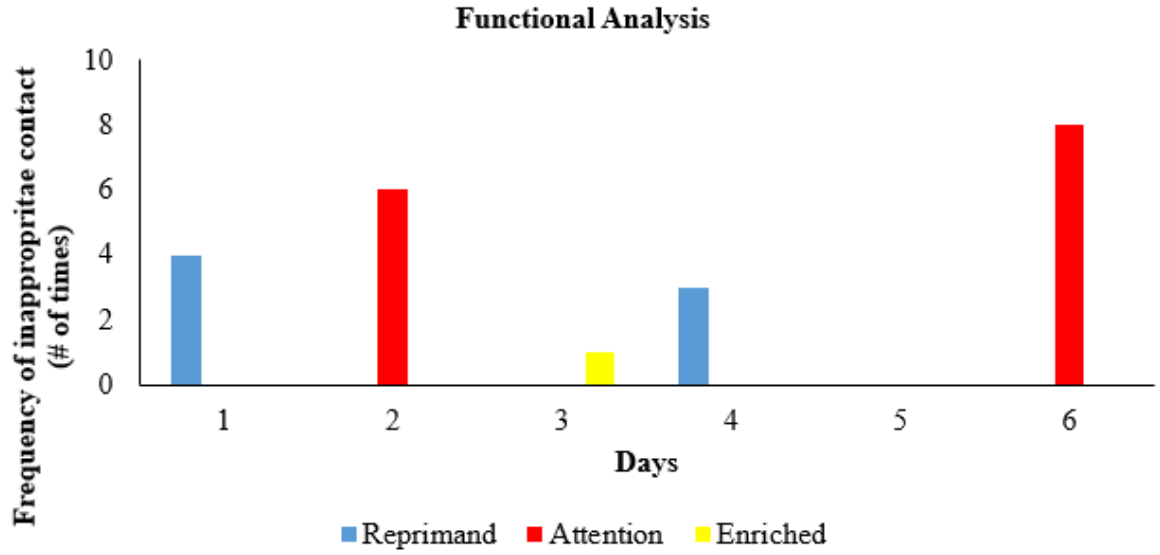

Figure 1. Number of times inappropriate contact occurred across three different condition (i.e., reprimand, attention, enriched), in a six days FA assessment

Questions About Behavioral Function (QABF)/Indirect Assessment

The QABF is a questionnaire consisting of 25 items, with 5 items in each of 5 factors (i.e., attention, escape, non-social, physical, and tangible). The items are scored on two dimensions; occur/does not occur, apply/does not apply, and on severity (i.e., rarely, some, often) (**Figure 2)**.

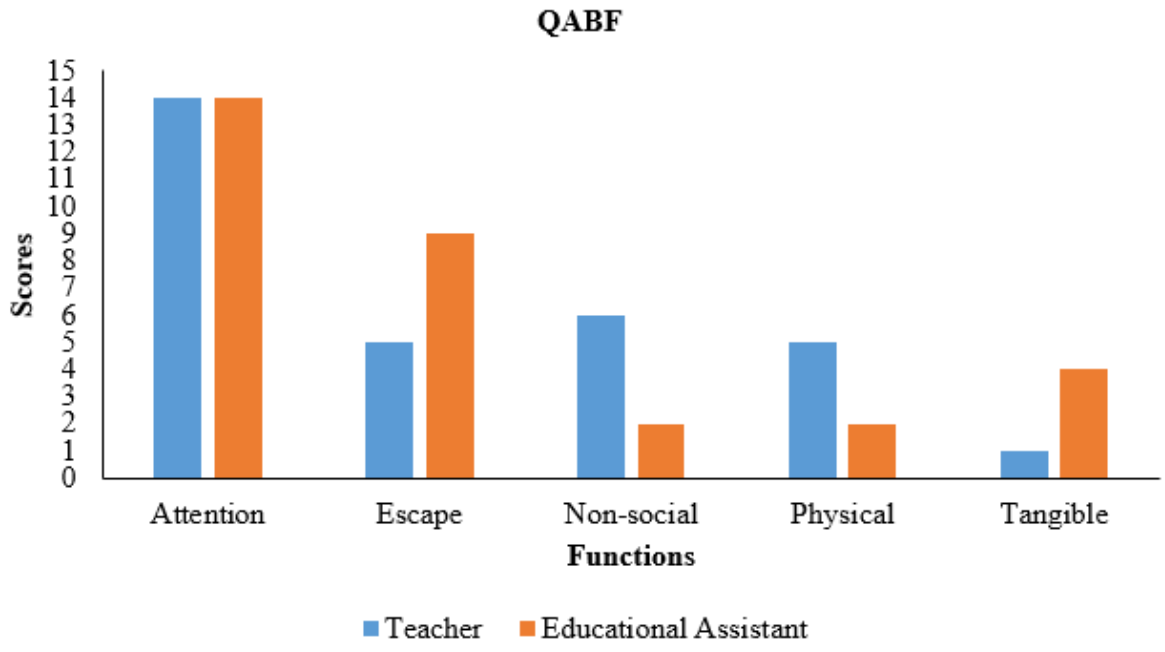

Figure 2. QABF severity scores for X presented as bars.

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Both QABFs, identify that the potential function of Katrina's inappropriate contact is the attention reinforcement, with total equal score of 14 from both teacher and EA, which was the highest score compared with the other functions. We observed few differences across the other 4 functions, were teacher count 5 total times of inappropriate contact for escape, whereas EA's score was a little bit higher (i.e., 9 total). For the non-social function, teacher's total score was 6 (3 for self-stimulation and 3 for nothing to do), whereas EA's was only 2 (only for the self-stimulation). For the physical function, teacher's score was 5, whereas EA's was again in a little bit lower levels (2 total score; only for physical problem) and for the last function, teacher's total score for the tangible was only 1 (You have), whereas for the EA was higher (4 total; 2 you have and 2 peer has). Consider both QABF's the results are clear and the scores are high during attention function across both observers, which makes us consider that even through the QABF, the potential function of Katrina's behavior, is the attention.

A-B-C Data Checklist (Antecedent-Behavior-Consequence)

The analysis of the A-B-C data showed that Katrina's inappropriate contact mostly occurs when she wants to gain other peoples' attention (peers and teachers) (**Figure 3**). Based on the antecedent (the events which occur before the occurrence of the target behavior), every time Katrina must wait for her peers, she sees friends/teachers in the hallway, or other people talking to each other, then she engages to inappropriate contact.

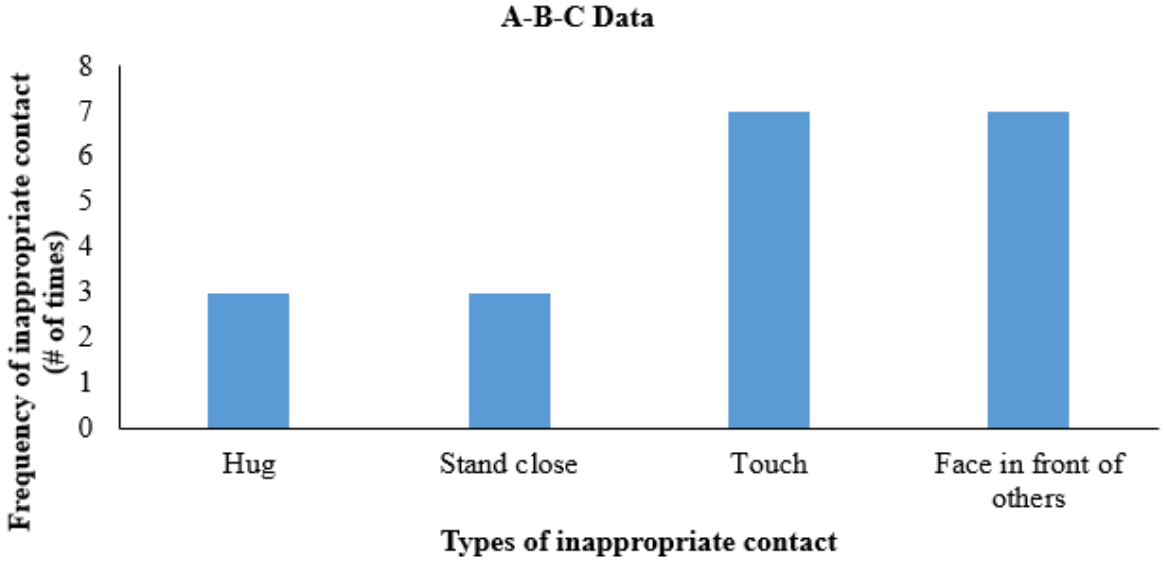

Figure 3. Number of times Katrina engaged to types of inappropriate contact, presented as bars.

Few examples of her behavior based on the analysis of the A-B-C data, are hugging other people (teachers, students), who are walking in the hallway, standing too close (~ 1 foot, 6 inches away from them) every time she wants to talk to them, without can respect other peoples' personal space, touching them (touch other peoples' body parts; face, grabs arms, hair), and she puts her face very close to others' face when she is talking to them (~6 inches

away). Most of the time, the consequence is reprimand from teachers, who point her inappropriate contact, and her students who are laughing/teasing her, and as an example she is feeling anxious and she is trying to remove from the area by saying sorry and trying to hold her hands close to her.

The A-B-C bar chart, showed that Katrina across 3 consecutive school days, engaged most of the time to touching others and putting her face very close to other peoples' face, with 7 times in total. Across these days, she engaged to less number of times in standing close (without putting her face close to other peoples' face; only her body), and hugging people, with equal total 3 number of times. That means that Katrina, every time she wants to interact, communicate and gain other peoples' attention, she is putting her face close to their face (~6 inches away) and touches them.

Preference Assessment

For our case, we also conducted a stimulus preference assessment to identify Katrina's reinforcers and on what she is motivated. Based on the analysis of this assessment we identified that Katrina's stronger reinforcers are conversation with her preferred people, attending drama class, make phone calls or Skype with her friends and her relatives, and lastly doing some crafts with her friends from Girl Guides. Preference assessment is very important, as it will help us during the intervention plan (e.g., every time she engages to appropriate contact, we can provide a reinforcer etc).

Interobserver Agreement (IOA)

The IOA implemented during FA. For the procedural integrity of how to implement each condition, there was exact agreement between the two observers (100%) and for the procedural integrity of recording frequency of the inappropriate contact, there was 85% agreement between them.

Hypothesis

Based on the analysis of the assessment data, the hypothesis statement for Katrina's case is the following: Katrina engages to inappropriate contact, which includes touching other people (e.g., hair, nose, arms), hugging them when they are walking in the hallway, standing very close to them (~1 foot away), putting her face close to other peoples 'face, when she wants to talk to them (~6 inches away), and she interrupts other peoples 'conversations without respecting their personal space, in order to gain their attention. The variable which actually maintain and reinforce the occurrence of Katrina's inappropriate contact with other people, is access to attention from her peers and her teachers at school.

Skills

Based on our assessments' data and Katrina's BPS profile, Katrina has interest in interacting with other people, and at the same time she has limited social skills which do not help her to develop and maintain friendships. Consider her significant social difficulties and her inappropriate contact with other people to gain their attention and contact with them, Katrina needs support which will help her to improve her social behavior and protect her from potential

bullying, teasing, and/or any kind of abuse in the future. So far there have not been studies directly which show strategies to improve social skills in children with WS, nevertheless we seek for information which are available regarding the improvement of social skills in other clinical populations who face similar difficulties (e.g., autism, children with intellectual disabilities).

Some of the skills that we can teach Katrina to improve her social profile is, the personal space (i.e., appropriate physical distance, respecting personal space) and functional communication training to teach her how and when she can join conversations. During our social skill training, we can use different methods to demonstrate these skills (e.g., social stories, video modeling, role-play) and we can teach them in a multiple setting to increase the likelihood that the skills will be generalized across different every day settings.

Personal Space

It is important to teach Katrina personal space, as based on our data, seems that she has lack of personal boundaries and respecting other peoples' space, as every time she wanted to talk to someone and to gain his/her attention, she was standing very close to them (~1 foot away) and she was putting her face very close to others' face (~6 inches away) which is considered as non-social acceptable and appropriate. Even if she is very friendly, these reactions are not acceptable from her peers and students, and as result they reprimand and teasing her, and Katrina feeling anxious and stressed and of course she cannot maintain her friendships.

Personal space is part of the social communication and is very difficult for children with WS to understand it, the same happened with Katrina. Katrina should be taught in personal space in different settings and initially in her school where she spends most of her time and she interacts with many people. We can achieve that with different activities (e.g., hula hoop or chalks to draw circles which represent the appropriate distance between people) which at the same time can be funny, especially if we implement them with Katrina's preferred people. We can teach her that an appropriate distance to stand is an arm's length away from her partner. Once Katrina do that, we should immediately provide reinforcer (FR1) and a lot of verbal praise. We can also teach her personal space through role-play, social stories, and real-life examples, where initially she should understand what it is considered as an appropriate distance from your partner and then try to do the same in play role with her friends and/or observe other people, and identify what is appropriate and acceptable and what is not. All these techniques may help Katrina to understand the meaning of personal space.

Appropriate ways to join conversation (know how and when to join other people)

Based on Katrina's BPS profile, her A-B-C data, and our literature review for individuals with WS and their verbal skills, seems that she has significant strength in her verbal domain, as she can communicate with others, ask questions, and make sentences, which means that her expressive vocabulary and articulation are one of her strengths. Based on her A-B-C, Katrina is seeking for attention and company (people to join her for a walk), but the way that she is asking and the time (when other people are talking) is not appropriate. She does not know how to join a conversation and she does not know when she can "interrupt" others to start a

conversation with them. Due to her lack on these skills, Katrina engages to inappropriate contact.

Teaching her alternative ways to communicate with her peers and teachers, can benefit her and give her the chance to develop friendship and be acceptable from everyone without teasing her. In that case, we can demonstrate for example functional communication training (FCT) and at the same time provide reinforcmement (FR1) every time Katrina engages to appropriate contact. Through the FCT, we will teach her other ways, instead of touch people, approach them very close, interrupt them, to gain their attention and know when and how it's acceptable to do that (when people do not talk to each other, ask if she can join the conversation, stay in topic, ask only once, and at the same time implementing her personal space skills; giving space to her peers, without approaching them so close). These skills will reduce Katrina's inappropriate contact, by replacing it with more appropriate forms of communicative needs.

Antecedent Strategies

Considering Katrina's profile, analyzing assessments' data, and identifying the function of the inappropriate contact, we can propose to teachers and EA's two antecedent strategies, which can implement and support Katrina and at the same time prevent the occurrence of her inappropriate contact with her peers and/or other teachers. By implementing antecedent strategies, we will introduce events which will occur before the target behavior and which will help to reduce or even eliminate the occurrence of this target behavior. The two antecedent strategies that we propose and we will train Katrina's teacher and EA are, the social stories and the self-management; self-monitor.

Social Stories

As Katrina faces deficits on her social skills and interaction with her peers and her friends, an effective strategy which can prevent the occurrence of her inappropriate contact, can be the social stories. Teaching social skills through social stories, is a part of the behavioral training in Applied Behavior Analysis (ABA), and it has been considered as a less intensive method which can be easily implemented to school placements and needs little effort to be implemented by teachers. It is also effective as, ethically is the least intrusive intervention which has been designed to eliminate challenging behaviors and teach alternative and appropriate behaviors. Another study identified the effectiveness of social stories, which supported that can be implemented with different ways (e.g., simple stories, pictures, video-modeling etc) and it can improve different types of behaviors and replace them with appropriate ones.

For Katrina's social story, we will write a short story which will describe a specific social situation. At the same time, we can have extra prompts and more specifically video-modeling which will represent a specific concept and behavior; the one that we want to teach (personal space and when and how to join conversation with other people. The objective of this intervention is to enhance Katrina's understanding of specific social situations and teach her an appropriate behavioral response, which can practice with her teachers' support. The story that we will design, will teach Katrina how she will manage her own behavior under specific

conditions, by describing where the activity will take place, whose will be involved, what will happen, and why Katrina should behave in a certain way.

Our social story will be brief (5-10 sentences) and it will include visual support (pictures of stories). At the same time, we can include few trials of video-modeling, which will describe the social skill and the appropriate behavior. The story should be easy and well demonstrated always consider Katrina's cognitive level. During the implementation of the social stories, teacher should support Katrina and make sure that she has understand the concept of the social story. To make sure that Katrina has understand the concept (from the story and/or the video-modeling) we can ask her questions or we can discuss with her what is right to do and what is not and at the same time we can do a mini role-play with her where she must demonstrate what she will do under similar conditions. For every correct response, teacher must provide immediately reinforcement (verbal praise). Katrina, can hold a key ring with social stories (put it on her belt; where she can carry on it every time, as an extra support, to always remind her what is the right thing to do).

Self-management (self-monitor)

The second antecedent skill that we can teach Katrina, is the self-management, during which we will teach her how to discriminate her target behavior and then record the occurrence or the absence of this behavior. Self-management is an effective technique which can help individuals of any age, syndrome, and any level of functioning, to achieve higher level of independence. At the same time, through self-management, can be reduced challenging behaviors, self-management, has been found very effective with individuals who have been diagnosed with moderate to severe intellectual disabilities, and it can increase and improve their social skills and decrease inappropriate behavior. A research study (Koegel et al., 1992), showed that the self-management was very effective across children with autism who at the same time had severe deficits in their social skills. The findings from this study, showed that self-management can be a promising intervention for individuals with social deficits and at the same time enhance their independence. One more study identified the effectiveness of this technique, in children with autism and deficits in their social skills. Based on this study, teaching social skills by using self-monitoring and peer monitoring, and reinforcement, was very effective and increase the initiations of children with autism to their peers during play. It was also effective to improve and enhance social interactions and the use of specific social skills. For the self-management, initially we need to identify the Katrina's target behavior, then collect baseline behavioral data, after that determine the type of the self-monitor, establish procedures, teach the procedures to Katrina, and at the end identify the effectiveness of the procedure.

Some of the behaviors that we can include can be hugging other, touch others, put face close to other peoples' face, do not wait other people to finish their conversation. All these behaviors should be measurable and well understand by Katrina. At the end of her interval (every half an hour), Katrina will check her list and she will record her behavior. If she acted well across all the behaviors, then she can get her reinforcement immediately. All the steps will be explicated explain to Katrina and in the beginning, she might need her teacher's support, prompt, and observation to make sure that she has understand what exactly she should do. Any kind of

prompt should be fade out as soon as possible. On the other hand, except from Katrina recording, teacher should record data to examine procedure's effectiveness. More specifically, should collect data for Katrina's independence skills, accuracy in rating her behavior, and the target behavior itself. Every time, teacher should observe and supervise Katrina, to check the ease of use, if Katrina has understood the process, and in case where there are issues, to immediately provide modifications to increase this procedures effectiveness.

Consequent Strategy

For Katrina's case, it is also important to propose a consequent strategy in case where she will engage to inappropriate contact. The strategy that we can implement is extinction plus differential reinforcement of alternative behavior (DRA). Many research studies have identified the effectiveness of extinction with combination of DRA to decrease the occurrence of challenging and non-appropriate behavior and reinforce the occurrence of social acceptable and appropriate behaviors, which serve the same function with the inappropriate behavior. For the attention-maintained behaviors, many different strategies have been proposed and have been considered as effective interventions for individuals with ASD who engaged in challenging behaviors. One of these interventions is the extinction plus DRA.

For Katrina, we will withhold reinforcers every time she engages to inappropriate contact with peers and/or teachers, which basically means that we will ignore her behavior and we will put it in extinction (not provide any kind of attention, verbal attention, eye contact, physical attention; we should lean away from her and interact with other students; without reprimand her behavior and point what she did wrong). After couple seconds, we can prompt her by pointing her visuals (social stories; which can carry on or can be in the walls of the school setting). In case where Katrina engages to appropriate response/contact, then we should immediately deliver reinforcement (verbal praise). Gradually we can fade any kind of prompt that we are using (not pointing to see her story cards).

Implementation at co-op placement

We know that Katrina in two months, will start visiting seniors at a local retirement residence. We also know her social deficits, so it is very important to make sure that when she will start her co-op placement there, she will not face any issue and that she will not engage to any inappropriate contact with the residents. To achieve that we can follow the following steps:

Natural environment teaching (NET)

Through NET, Katrina will not be taught in a structured environment, as BT's do must of the time by implementing all the interventions in DTT. By using NET, Katrina will teach her new skill not only in one environment, but in many different environments and she will be able to utilized her new skill outside of the therapy. During NET, teachers will be driven by Katrina's motivation (for socialization, pairing, talk to other people) and then they should carry out in an environment which will closely resemble natural environments. Based on studies NET has been effectively implemented to teach functional communication training, and a variety of social skills. At the same time, based on the study, when you teach a child in NET, then we

increase the likelihood that the child will generalize the new skills, which is the final goal of every single therapy.

Generalization of her skills

Through generalization we are expecting that Katrina, will be able to conduct an appropriate contact with other people, under different and not training conditions. Her behavior should be occurred across different locations, people, and over time. A study (Gaylord-Ross et al., 1984), showed that they achieved to improve and enhance children's with ASD and social deficits, their social skills and interactions with other peers, through training and generalization. More specifically, they wanted to increase the amount of time for the initiations and social interactions of those children with their peers, and the results showed that that effectively achieved through generalization across sub-environments. We can do the same with Katrina, once she has demonstrated her skill, in school with her teacher (initially) then we can generalize it across novel people (new peers/teachers/parents) and across novel locations (parks).

Social story on key ring

By holding with her all the time her social stories (pictures of the appropriate contact), she can refer there and to remind to herself what is the right thing to do (the last step; and initially someone point her to look her pictures before try to approach other people).

By implementing these steps, we can prevent the occurrence of inappropriate contact and we can make sure that Katrina will be able to interact appropriately with new people in a different setting.

Data Collection

It is very important to collect data from both teachers and Katrina. By collecting data, we can analyze them and identify if there is any progress on Katrina's social skills. For that case, we need simple checklists, which will be filled in by both teachers and Katrina. The checklists, will be quite similar, with the only difference that Katrina's checklist will be more simplify and it will include visuals (pictures) as an extra support. The checklist, for Katrina's case, it will be also part of her self-monitoring. The checklists should be filled in every day, at the end of the day. At the end of the week, or every two week, depend on BA's and teachers' meeting, we can collect these data, analyze them, and even compare each other, to see if there are any differences or similarities across the checklists. We need simple checklist, even for teachers, as we know that they might not have plenty of time to fill-in many different forms during the day.

Teacher's training plan

Mediator Training

The behavior skills training (BST) protocol consists of 8 distinct components. We will implement these steps, to train teachers and EAs to adapt Katrina's intervention strategies. In step 1, we will provide the rationale for the skill being trained. The target behavior (TB), will be operationally defined in measurable, and observable terms, and a performance checklists will be developed to measure the staff performing the skills. In Step 2, we will provide vocal

description of the skill to be taught, and then a brief written description of how the target skill and the components involved will be provided to teachers and EAs. In Step 3 & 4, we will demonstrate the skill to teachers and EAS, modeling the process. The rehearsal/role-play is step 5, where we will practice the taught skill with teacher. This is the most important component in the BST, because it must be performed correctly to enable effective implementation of the intervention. In Step 6, we will take data on the correct/incorrect performance during role-play teaching the target skill. For step 7, we will provide both corrective feedback, and social praise to the mediator. It is advisable to deliver praise for correct performance of steps before delivering corrective feedback. The eighth step is the final step, and this involves the mediator(s), repeating steps 5 to 7 until the performance criterion set is achieved.

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Note: all names in the paper have been changed.