

THE IMPACT OF SOCIAL STORIES ON COMPLIANCE AND AGGRESSION IN A KINDERGARTEN AGED CHILD

Alica Benton and Cynthia F. DiCarlo

Louisiana State University

Abstract A multiple baseline design was used to evaluate the effectiveness of social stories to increase compliant behavior and decrease verbal aggression in a 5-year-old girl. Non-compliant behavior/disruptive behavior has been demonstrated to have immediate and enduring consequences on social behavior, such as loneliness and peer rejection and impede education and social interactions. (Buhs & Ladd, 2001). In this study social stories (Rogers, 2000) were used to target three situations to decrease non-compliant behavior and verbal aggression. The target situations were getting ready for school in the morning, morning recess at school, and dinnertime. The target child was a kindergarten-aged girl with a history of non-compliant and argumentative behaviors. Although a limited number of studies have been conducted using social stories as a behavioral intervention with non-autistic children, results showed an increase in compliant behavior and a decrease in verbal aggression for the getting ready in the morning routine. Based on these findings and past research, social stories can be used as a low-cost, low labor-intensive intervention in modifying disruptive behaviors for all young.

Keywords: teacher action research, social stories, behavior intervention

Introduction

Understanding social rules can be difficult for individuals with developmental disabilities. This may stem from lack of explicit instruction in appropriate behavior and/or response to social situations. Learning by example is often beneficial for individuals with autism or other developmental disabilities. Social stories are an appropriate method to explain social settings, suitable social behaviors, and transitions to someone with a disability. This study implements the use of social stories to improve compliant behavior in a kindergarten- aged girl with developmental difficulties.

Literature Review

Social stories are short, individualized stories that employ positive statements to describe a social situation and teach the correct social response (Gray, 2007). These stories provide children with the support needed to respond appropriately to new and difficult social experiences (Gray, 1995, 2007; Swaggart, Gaghon, Bock, Earles, Quinn, Myles, & Simpson, 1995). Social stories have been used successfully to assist children with Autism Spectrum Disorder (ASD) to develop a better understanding of social situations and cues and respond appropriately to those situations (Rogers, 2000) .

Gray and Garand (1993) established a specific set of guidelines to aid in creating social stories. These guidelines suggest that the social story contain four types of sentences written in first person perspective of the target child. Social stories should include *descriptive* sentences that describe the actions of people in the circumstance, *directive* sentences that identify the appropriate response, *evaluation* sentences that describe the reactions of others when the student makes appropriate choices, and *positive* sentences that provide understanding of common social values (Gray & Garand, 1993; Austin, J., & Agar, G., 2005).

Social stories have been used in various social situations and circumstances with a wide age range of students with autism. The intervention has demonstrated effectiveness in improving behavior at mealtime (Bledsoe, Smith, & Simpson, 2003), increasing on task behavior and hand washing frequency (Hagiwara & Myles, 1999), improving social behavior (Barry & Burlew, 2004), and decreasing behavior challenges (Lorimer, Simpson, Myles, & Ganz, 2002).

The purpose of this study was to determine if social stories might be an effective intervention for teaching social behavior to a kindergarten-aged girl who had difficulty with routine activities both in the home and at school. Although the child has not been diagnosed with ASD, multiple placements in foster care and an interrupted childhood have had an impact on her social, emotional, and mental development. The child has been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), anxiety, post-traumatic stress disorder (PTSD), and reactive attachment disorder. All of these disorders impact her ability to learn and interact socially at age appropriate levels. A child's development and ability to cope are compromised by repeated moves from home to home due to the adverse consequences of stress and inadequate parenting (Health & Services, 2009).

Methodology

Research Design. Single-subject research design was used to record child behavior within routine activities (Kazdin, 2011). Specifically, a multiple baseline across settings was used to measure verbal aggression and compliance across the child's morning routine, recess, and dinner routine across a 2-week period. Consistent with guidelines set forth by the *Single Case Technical Document* each phase differed in duration and had a "minimum of 5 data

points”; intervention was implemented when baseline levels of behavior documented a “need for change” and were stable (Kratochwill, T. R., Hitchcock, J., Horner, R., Levin, J. R., Odom, S., Rindskopf, D., & Shadish, 2010, p. 19).

Participant. The target child was a 5-year-old girl who exhibited non-compliance and verbal aggression/confrontational behaviors. She had been in and out of foster care since she was 13 months old, and had recently been adopted by her foster family. She was previously diagnosed with attention deficit disorder and reactive attachment disorder and had behavioral problems at school and home. Reactive attachment disorder (RAD) is described as condition that begins before the age of five and is caused by a perpetual disturbance in a child’s social relatedness that occurs across social situations (Zeanah C. H., Scheeringa, M., Boris, N. W., Heller, S. S., Smyke, A. T., & Trapani, J., 2004). Social relatedness is a child’s biological need to belong, be accepted, and feel positive emotions as part of a group social relatedness (Deci & Ryan, 2010). RAD is frequently diagnosed in children who may have received grossly negligent care and did not form a healthy emotional attachment with their primary caregivers before age five. Symptoms include an aversion to touch and physical affection, control issues, anger problems, difficulty showing genuine care and affection, and an underdeveloped conscience (Hanson & Spratt, 2000). Teachers and parents reported the child as having fits of rage and an inability to control her emotions. When her parents or teachers physically intervened to stop an aggressive act toward another child, she became physically combative and verbally abusive.

Setting. The study occurred in the target child’s home and her kindergarten classroom at school during of the child’s morning routine at home, recess at school, and dinner routine at home. The target child’s home environment included of her parents and an older sibling. The morning routine involved the target child and her mother and took place in the parent’s bathroom; the dinner routine involved the target child’s parents and older sibling and took place at the dining room table. The target child’s kindergarten classroom consisted of 16 children and one teacher. Data at school were collected during recess, which took place on the playground. The playground consisted of 3 sand tables, several basketball goals, playground equipment to climb on, and a large open field.

Behavior Definitions. The dependent variables were compliant behavior, non-compliant behavior, and aggressive behavior. *Compliant behavior* was defined as initiating response to a teacher or parent directive within 3 seconds. *Non-compliant* behavior was defined as not initiating a response to a teacher or parent directive within 3 seconds. *Verbal aggression* was identified as talking back, being sassy, argumentative, contradictory, saying things the target child intended to be hurtful, (i.e., “You’re not my mommy. I don’t like you.”), as well as defiant statements (i.e., “I’m not going to do it.”; “You can’t make me”). These aggressive behaviors also included growling, stomping her foot, screaming, and using an aggressive

tone when speaking. The researcher also recorded when there was *no opportunity* to respond because no directive was given.

Childhood is defined as the period from birth to eight years old (Mishra, 2005). It is a time of extraordinary brain growth that lays the foundation for subsequent development. It is a time for social, emotional, cognitive and physical development, discovery, and curiosity (Shanahan & Lonigan, 2010). The interruption of childhood is emotionally and mentally challenging (Phillips & Shonkoff, 2000). An interrupted childhood occurs when affectional bonds are disrupted and normal development is compromised. According to the Committee on Early Childhood, Adoption and Dependent Care for the American Academy of Pediatrics (Miller P. M., Gorski, P. A., Borchers, D. A., Jenista, J. A., Johnson, C. D., Kaufman, N. D., . . . Rezin, J, 2000) consequences of abuse, neglect, and placement into foster care can negatively affect a child's early brain development, ability to attach to care givers, sense of time, and response to stress. An interruption in the continuity of a child's caregiver can be harmful. A child's development and ability to cope are compromised by repeated moves from home to home due to the adverse consequences of stress and inadequate parenting (Health & Services, 2009). Behavior problems occur more frequently in foster children, and foster children perform poorly in activities that lack structure (McKellar, 2007). This study investigates the effectiveness of social stories for changing non-compliant and verbally aggressive behaviors in a child impacted by an interrupted childhood.

Experimental Conditions

Baseline.

- *Morning routine.* The morning routine consisted of activities designed to prepare the child to leave the house each morning (e.g., getting dressed, using the bathroom, washing hands, brushing teeth and brushing her hair). Her mother provided verbal and physical assistance, as needed to move her through this routine. During baseline, the target child was observed refusing to get dressed and required repeated verbal directives to get dressed, put on her shoes, and brush her teeth. She was observed engaging in verbally abusive behavior consisting of yelling and screaming in the absence of getting dressed or refusing help.
- *Dinner routine.* The dinner routine consisted of tasks designed to assist the child in self-feeding (e.g., using utensils skillfully, eating the food on her plate), and appropriate table manners/conversation (e.g., asking for more, saying 'please' and 'no thank you', engaging with family in general conversation). During baseline, the target child was observed refusing to come to the table when asked, shoving her plate across the table stating she didn't like the food, and ignoring requests to eat her dinner. She was also observed to whine and argue about having to sit at the table.
- *Recess.* Recess occurred during school right before lunch, at 10:00am, and lasted for 25 minutes. During recess, children were free to choose among playground equipment and other materials provided outside. The target child was observed

exclusively playing alone. She was observed collecting acorns, sticks, or rocks by herself. She did not allow other kids to join her and was verbally aggressive to the children around her.

Social Story Intervention. A social story for each routine was created in alignment with guidelines established by Gray and Garand (1993) (Table 1). Guidelines for writing social stories suggest the inclusion of short, direct sentences that are descriptive, directive and perspective in consideration of the child’s comprehension level (Gray & Garand, 1993). Stories created for the present study described the series of activities the child needed to complete within each routine (e.g., brushing teeth, setting table, lining up), as well as positive consequence for appropriate behavior (e.g., playing with beanie babies, getting more food, playing with friends).

Table 1. Text included in Social Stories for Morning, Dinner, and Recess Activities

Social Story for Getting Ready in the Morning
I just woke up. It is time to get ready for school. I put on my jumper. I put on my socks and shoes. I brush my hair and my teeth. I take my medicine. I do it without talking back or complaining. When I am a good listener I get to play with the beanie babies in Mom’s room.
Social Story for Dinner
I help set the table. I come to the table when I am called. I say a prayer before I eat. I use my fork to eat. I say please and thank you when I want more. I have good manners. I don’t talk with my mouth full. I take my dishes to the sink.
Social Story for Recess
I line up with my class. I play at the sand table and share the toys. I put the toys away when I am finished. I wait my turn for the tire swing. Then I swing with my friends. I can collect acorns with my friends. I line up before the teacher counts to ten. I listen to the teacher’s directions.

Morning routine. The social story included pictures of the target child making socially appropriate choices and being rewarded for her compliant behavior. The social story was read to the target child at night before she went to bed and again in the morning before the getting ready process began. The intervention phase was also videotaped for the first 10 minutes of getting ready in the morning for five days. During the intervention phase the social story encouraged the target child to get dressed without complaining. Each page of the story included a picture of the child completing each step of getting ready in the

morning. The final page was a picture of the child being rewarded with playtime with beanie babies for getting ready and not complaining.

Dinner routine. Another social story was created targeting the appropriate dinner behavior and verbal interactions. This story also included pictures of the target child eating with her silverware, using good manners by saying please and thank you, and coming to the table when called. The story was read 5-10 minutes before the target child was called to the table for dinner.

Recess. A social story was created using pictures of the target child to provide social cues for compliant behavior and encourage playing with others. The social story was read to the target child individually before school started and again with her whole class prior to recess. An additional component was added to the social story intervention for the recess routine. Due to the low level of teacher directives being given during recess (baseline average of 8%) and the fact that the target child was choosing to socially isolate herself, the added component to the social story intervention included teacher directives prompting her to ask someone to join her to play or to join someone else at the rate of once per minute during the 10-minute observation. This gave the target child additional opportunities to comply and encouraged social play.

Data Collection. Data were collected by videotaping the target child during each routine. Interval recording was used to record behavior in 20-second intervals during 10-minute sessions. Data collection occurred over a period of 2 weeks.

Data Analysis. Single case designs rely on visual analysis of data to determine if a relationship between the independent variable and dependent variable exists (Kratchowill et al., 2010) "A causal relationship is demonstrated if the data across all phases of the study document at least three demonstrations of an effect at a minimum of three different points in time" (p. 17). The independent variable is said to have an *effect* when the pattern in one phase (e.g., intervention) differs from the pattern in the previous phase (e.g., baseline) (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005)

Interobserver Agreement. Observers were trained through written instructions and feedback prior to collecting data. According to Kratochwill, et al, (2010) interobserver agreement was calculated on 20% of the observations across baseline and the social story intervention (n=8)(2010, p. 15). Interobserver reliability was calculated using the formula of the number of agreements divided by the number of agreements plus disagreements and multiplying by 100. The standard agreement should be a minimum of 80% (Kratowchwill et al., 2010). Reliability for compliant behavior was 80% (range, 70%-93%).

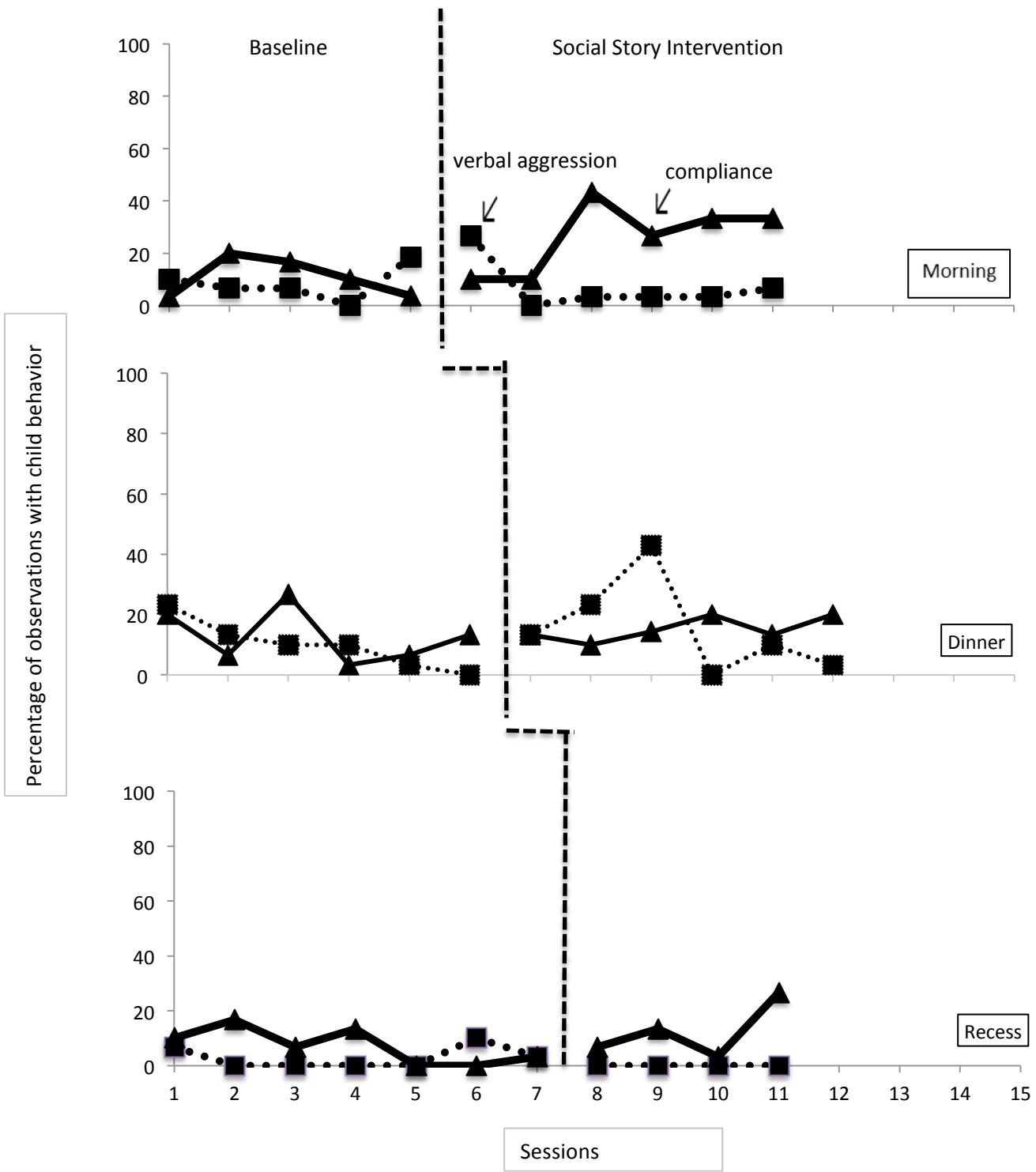
Results

Morning routine. During baseline, the target child was non-compliant on average 34%, compliant on average 11% and displayed verbal aggression on average 10% of the observation sessions (see Figure 1). When the social story intervention was applied, the child was non-compliant on average 14% of the time and compliant behavior increased to an average of 25%, and displayed verbal aggression on average 7% of observation sessions. This represents a 20-percent point decrease in non-compliant behavior, a 14-percentage point increase in compliance, and a 3 percent point decrease in verbal aggression.

Dinner routine. During baseline, the target child was non-compliant on average 20%, compliant on average 13% and displayed verbal aggression on average 10% of the observation sessions (Figure 1). When the social story intervention was applied, the child was non-compliant on average 12% of the time and compliant behavior increased to an average of 27%, and displayed verbal aggression on average 16% of observation sessions. This represents a 2 percent point decrease in non-compliant behavior, a 2 percent point increase in compliance, and a 6 percent point increase in verbal aggression.

Recess. The recess intervention also did not show a desired change in compliant behavior and verbal aggression but an increase in non-compliant behavior (Figure 1). During baseline, the target child was non-compliant on average 1%, compliant on average 7% and displayed verbal aggression on average 3% of the observation sessions. Baseline data also indicated that the target child was only receiving teacher directives 8%, which explains the low measurements. Intervention procedures included a social story that addressed correct social behavior and teacher prompting to encourage playing with others. Teachers were given instructions to prompt the target child each minute to interact with peers, which increased teacher directives to an average of 35%. When the social story intervention was applied, the child was non-compliant on average 23% of the time and compliant behavior increased to an average of 5%, and displayed verbal aggression 0% of observation sessions. This represents a 22-percent point increase in non-compliant behavior, a 2 percent point decrease in compliance, and a 3 percent point decrease in verbal aggression.

Figure 1. Percentage of observed intervals with verbal aggression and compliance.



Discussion

Social stories are based on the premise that if a child is presented with expectations of her environment, she is better able to participate (Gray & Garand, 1993). Results of the present study are consistent with previous research, which found that social stories can be effective in assisting children in the development of social participation in some instances, but may not be as effective in others (Tanner, Hand, O'Toole, & Lane, 2015).

There were several factors that may have impacted results from the present study. While the morning intervention showed the most significant results, this may have been due to the child's available resources at this time of day. The target child was better rested and, therefore, may have been more amenable to the social story intervention at this time of day. During the morning routine, parents reported less stress and found getting ready was not as confrontational when the social story intervention was implemented.

In contrast, it is possible that data from the dinner routine were impacted by the lateness of dinnertime, causing the target child to be over tired by this time of the day. The child may have had fewer resources available in terms of attention and patience during the dinner routine. It is possible that moving the dinner routine to an earlier time, in conjunction with the social story intervention, may have an effect on the child's behavior.

During recess, the target child's non-compliant behaviors may have stemmed from the additional teacher directives to join others in playing. This modification was introduced following baseline data, which revealed that the child played in isolation. Although data were not collected on the target child's social play, teachers reported an increase in the child's social interaction with peers when the teachers began providing directives to join the play of other children.

Limitations

One limitation of this study was the relationship between the target child and the researcher, who was the target child's mother. The influence of history and desire for a change in the target child's behavior likely impacted both data collection and interpretation. It deeply influences the researcher's perspective and the way the research was conducted. The researcher was seeking an intervention that would reduce the difficulty and stress of parenting a child suffering from the social, emotional, and mental effects of an interrupted childhood.

The goal of the present study was to increase child compliance while also decreasing both non-compliance and verbal aggression. The results indicated that social stories could be a powerful intervention for behavior change. The positive results of this study were significant because they demonstrated that social stories could be highly effective for typically developing children. Social stories are easy to create, unobtrusive, and personal to the target child's behavior issues. Results from previous studies (Barry & Burlew, 2004; Bledsoe et al., 2003; Lorimer et al., 2002), as well as the present study, suggests that social stories may be effective in some routines, but that additional supports may be needed to effect change in other routines. Data were only collected for a total of a 2-week period; it is not clear what behavioral changes might have occurred if the intervention would have been implemented for an extended period. Further research should be conducted using social stories as a behavioral intervention in school and home routines using more controlled observation and intervention protocol.

Conclusion

Social stories are intended to teach children how to behave in a given social setting by describing the activity in detail, including where and when the activity to occur, what will transpire, who will participate, and why the child should behave in a given way (Gray, 2007). Social stories can be implemented in the classroom to make it possible for children to easily observe, imitate, review, and practice desired and appropriate behavior. This can include daily routines for sharpening pencils, lining up, sitting at group time. Social stories can build student confidence and increase participation when expectations are clear and understood. Social stories can be used to facilitate student learning and increase engagement in multiple classroom activities.

About the Authors

Alica Benton, Ph.D. is a first-grade teacher at The Dunham School and an adjunct professor at Louisiana State University. Her research interests are in foster care, interrupted childhood, behavior modifications and literacy interventions. Dr. Benton is a Nationally Board Certified Teacher with twenty-five years of classroom teaching experience. She mentors pre-service teachers and serves as a new teacher consultant for The Dunham School. Email: abento9@lsu.edu

Cynthia F. DiCarlo, Ph.D. is a professor of early childhood education and the executive director of the Early Childhood Education Laboratory Preschool at Louisiana State University. Her research focuses on interventions to improve outcomes for young children and clarification and innovations in recommended practices in early childhood. Her research on children's attention during whole group instruction received the 2012 research paper of the year from the Journal of Research in Childhood Education. Dr. DiCarlo has incorporated her passion for research into the courses she teaches and her work in mentoring both undergraduate and graduate students. She currently serves on the editorial board for the Journal of Teacher Action Research, the publications committee for the Association for Childhood Education International, and serves as the Vice President for Membership for the National Association for Early Childhood Teacher Educators. Email: cdicar2@lsu.edu

References

- Austin, J., & Agar, G. (2005). Helping young children follow their teachers' directions: The utility of high probability command sequences in pre-k and kindergarten classrooms. *Education and Treatment of Children, 28*(3), 222-236.
- Association, A. P. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*: American Psychiatric Pub.
- Barry, L. M., & Burlew, S. B. (2004). Using social stories to teach choice and play skills to children with autism. *Focus on Autism and other developmental disabilities, 19*(1), 45-51.
- Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as antecedent of young children's school adjustment: An examination of mediating processes. *Developmental psychology, 37*(4), 550.
- Bledsoe, R., Smith, B., & Simpson, R. L. (2003). Use of a social story intervention to improve mealtime skills of an adolescent with Asperger syndrome. *Autism, 7*(3), 289-295.
- Deci, E. L., & Ryan, R. M. (2010). *Self-determination*: Wiley Online Library.
- Gray. (2007). *Writing social stories with Carol Gray*: Future Horizons.
- Gray, C. (1995). Teaching children with autism to "read" social situations. *Teaching children with autism: Strategies to enhance communication and socialization, 219-242*.
- Gray, C. A., & Garand, J. D. (1993). Social stories: Improving responses of students with autism with accurate social information. *Focus on Autistic Behavior*.
- Hagiwara, T., & Myles, B. S. (1999). A multimedia social story intervention teaching skills to children with autism. *Focus on Autism and other developmental disabilities, 14*(2), 82-95.
- Hanson, R. F., & Spratt, E. G. (2000). Reactive attachment disorder: What we know about the disorder and implications for treatment. *Child Maltreatment, 5*(2), 137-145.
- Health, U. D. O., & Services, H. (2009). Understanding the effects of maltreatment on brain development. *Washington: USDHHS*.
- Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., Wolery, M. (2005). The use of single subject research to identify evidence-based practice in special education. *Exceptional Children 71*(2), 165-179.
- Kazdin, A. E. (2011). *Single-case research designs: Methods for clinical and applied settings*. Oxford University Press.
- Kratochwill, T. R., Hitchcock, J., Horner, R., Levin, J. R., Odom, S., Rindskopf, D., & Shadish, W. (2010). Single-case designs technical documentation. *What works clearinghouse*.
- Lorimer, P. A., Simpson, R. L., Myles, B. S., & Ganz, J. B. (2002). The use of social stories as a preventative behavioral intervention in a home setting with a child with autism. *Journal of Positive Behavior Interventions, 4*(1), 53-60.

- McKellar, N. (2007). Foster care for children: Information for teachers. *NASP Communiqué*, 36 (4).
- Miller, P. M., Gorski, P. A., Borchers, D. A., Jenista, J. A., Johnson, C. D., Kaufman, N. D., . . . Rezin, J. (2000). Developmental issues for young children in foster care. *Pediatrics*, 106(5), 1145-1150.
- Mishra, R. (2005). *Early childhood care and education*: APH Publishing.
- Phillips, D. A., & Shonkoff, J. P. (2000). *From neurons to neighborhoods: The science of early childhood development*: National Academies Press.
- Rogers, S. J. (2000). Interventions that facilitate socialization in children with autism. *Journal of autism and developmental disorders*, 30(5), 399-409.
- Shanahan, T., & Lonigan, C. J. (2010). The National Early Literacy Panel: A summary of the process and the report. *Educational Researcher*, 39(4), 279-285.
- Swaggart, B. L., Gagnon, E., Bock, S. J., Earles, T. L., Quinn, C., Myles, B. S., & Simpson, R. L. (1995). Using social stories to teach social and behavioral skills to children with autism. *Focus on Autistic Behavior*, 10(1), 1-16.
- Tanner, K., Hand, B. N., O'Toole, G., & Lane, A. E. (2015). Effectiveness of interventions to improve social participation, play, leisure, and restricted and repetitive behaviors in people with autism spectrum disorder: A systematic review. *American Journal of Occupational Therapy*, 69(5), 6905180010p6905180011-6905180010p6905180012.
- Zeanah, C. H., Scheeringa, M., Boris, N. W., Heller, S. S., Smyke, A. T., & Trapani, J. (2004). Reactive attachment disorder in maltreated toddlers. *Child Abuse & Neglect*, 28(8), 877-888.