Literature review of physical aggression in children with autism and intervention strategies

# Introduction

This literature review examines the effectiveness of different interventions designed to decrease physical aggression and challenging behavior of children with autism. The lit review presents the studies and interventions. The World Health Organization describes autism spectrum disorder (ASD) as an ongoing neurological symptom that manifests in childhood and as a disorder that continues to pose a unique risk to people due to its inactive lifestyle, indicating a persistent increase in the risk of heart disease, obesity, and diabetes. Many academics claim that the main cause of concern for parents and teachers of children with ASD is externalizing behavior, which is strongly associated with a range of undesirable outcomes including violent behavior. Additionally, research demonstrates that as children become older their anger grows making them more susceptible to externalizing behavior. According to conservative estimates, a third of school-age children with ASD exhibit aggressive behavior, with some showing it at a rate of up to 70%. As a result, 32% of parents and 34% of teachers identify this externalizing behavior of children with ASD as their primary behavioral concern among elementary school aged children. Verbal aggression and physical aggression such as hurting people and property destruction, and other types of hostility are all examples of aggressive behavior.

Some academics contend that physical activities may aid in managing young children's externalizing behavior, while others discover that differential reinforcement can help in managing ferocity in kids with ASD. Sadler (2019) asserts that taking drugs like risperidone and aripiprazole can treat ASD children and lessen their propensity for aggressive behavior and physical violence. These conflicting results highlight a knowledge gap and highlight the need for a thorough review of prior research that offers intervention strategies beneficial in treating physical aggression among children with ASD, particularly in their early childhood that lowers the likelihood of their potential negative consequences in later years. Based on this theoretical gap, the current study's goal is to examine studies related to physical aggressiveness among children with autism spectrum disorder (ASD) and determine whether intervention options are effective in minimizing the harmful effects of physical violence. Sleep issues and behavioral instability are common in kids with autism spectrum disorder (ASD). (Mazurek., O., & Sohl, 2016)

The results of this study will have significant ramifications for professionals and scholars who work with ASD-affected children and need to manage their physical aggression using various successful intervention techniques. Theoretically, this study shows that it is important to distinguish between the symptoms of anxiety and depression in patients with ASD in their early infancy years and when parents are exposed to a variety of demanding behaviors that might potentially be traumatic for them. Given that children diagnosed with the autism spectrum exhibit aggression more frequently as they get older, this study also has significant practical ramifications because it shows that various life events, such as insufficient parental support or lack of parental education, money issues, and increased conflict with other kids, can have a negative impact on children's mental health and cause them to exhibit physical aggression. Such findings can be beneficial to practitioners and future researchers since they point to the necessity for more thorough empirical study and attention from the medical community to further understand and treat this difficult condition of physically aggressive ASD youngsters. With continual mental trauma and ongoing stressful exposure, the emphasis on physical activities as intervention options may be especially pertinent for parents who are supporting or parenting children with ASD who exhibit physical aggressiveness.

# Behavioral interventions

When it comes to autism Behavior is one of the important factors which is taken into consideration when interacting with children. For example, according to the study children who have autism performed two activities with less freedom to utilize colored stamps and musical tones than children with usual development. Another example is children who have autism and children who do not have autism both moved automobiles in and out of garages but barely half of the children with autism changed their motions or movements or tried out fresh or new cues even when they were rewarded for it. Sadly, the propensity for unchanging responses may reduce the number of possibilities for reinforcement (Szabo,2019). According to the American psychiatric association ASD can be defined in two ways number one is *“persistent deficits in social communication and interaction, and number 2 is restricted, repetitive patterns of behavior.”* These two identified behaviors explain that children with autism have chronic deficiencies when it comes to social communication and showing engagement and they also have restricted or limited behavior. Routines, rituals, and unwavering insistence on others performing tasks in an eccentric manner have negative consequences that may be connected to noticeably worsened life results (Szabo,2019). Another example is highlighted by the researchers that after viewing animated models in computer simulations, children with autism performed poorly on verbal and nonverbal social cues and had more restricted problem-solving abilities than their typically developing peers.

## Aggressive Behavior

According to (Giacomo,et al,. 2016) autism spectrum disorder (ASD) is a neurodevelopmental illness with childhood beginning that is marked by chronic deficiencies in social interaction and communication (Ramires, Godinho, Cravalho, Gastaud,& Goodman, 2017) as well as by constrained, monotonous patterns of behavior. The severity of the primary signs and symptoms can be significantly impacted by the existence of co-occurring such as behavior problems. Aggressive conduct, including self-aggression and other aggression, is a problematic trait that frequently coexists with ASD. The lack of speech impairment and communication difficulties causes autistic people a lack of compassion and the incapability to acknowledge states of mind to themselves and everyone else and to anticipate behavior in terms of these states may contribute to aggressive behavior and its determination over time. Tension among parents and children with neurodevelopmental disorders, especially those with autism spectrum disorders (ASD), is mostly brought on by aggressive and destructive behaviors. Additionally, hostility increases the likelihood that parents and other caregivers who live with the children themselves would physically harm the children.

These findings allow us to understand how aggressive behavior may intrude with guidance and educational interventions on the child, avoiding future potential improvements. Aggressive behaviors (Wilson & Maynard, 2018) have a negative impact on teachers' educational efforts, as they decrease the child's learning possibilities even when educational interventions are well-conducted. They can also lead to an epic meltdown and exhaustion in both regular and assistant educators. Some children may act out due to dissatisfaction with their inability to interact with those around them. These actions can take a variety of forms, including physical aggression, self-injuries behavior, or obnoxious tones of voice. When there are breaks in the procedure and the children's needs are not being addressed, it is suggested that these hard actions are a way for them to communicate. Furthermore, participants with a natural growth regulate and convey their stress via cognitive skills (such as coping mental strategies, symbolization abilities, portrayal, and expectation of stressful conditions), human engagement, and language and communication, as opposed to low-functioning ASD children who typically relieve tension through violent tendencies.

According (Ahemaitijiang, Hu, Yang, & Han, 2020), Adolescents with ASD who exhibit violent or destructive behaviors often get one of three forms of therapy. First, behavioral treatments for violent and destructive behaviors are built on intervention tactics that are drawn from applied behavior analysis and have proven to be successful. The development of multiple reinforcement strategies (such as reward and compensation differential reinforcement methods, non-contingent reinforcement strategies, or functional communication training) are typically used in these behavioral treatments to understand the purpose of aggressive or violent behaviors. The results of behavioral treatment differ and are challenging to sustain over time, according to the most recent research. Second, children with ASD who exhibit violent and destructive behaviors have long been treated with medication. Risperidone, aripiprazole, clozapine, olanzapine, quetiapine, ziprasidone, and paliperidone are examples of second-generation antipsychotics that have been performed admirably in lowering violent and destructive actions. Long-term maintenance impacts are uncommon, and there is little evidence to support the use of medications to treat stubborn aggressiveness. Finally, mindfulness-based therapist provides an alternative to the two conventional approaches due to their growing popularity in research and practice. According to the definition of mindfulness, it is "the consciousness that arises via paying close attention intentionally, in the current moment, and without judgment to the emergence of experience moment by minute." MBPs have demonstrated effectiveness in the cure of different illnesses and diseases for more than three decades. Children who exhibit behavioral issues at school frequently fail to satisfy scholastic requirements and form social connections with their classmates. (Njardvlk & Smaradottlr, 2022)

# Role of meditation – Intervention Strategy

The perks of meditating for children with autism have received very little academic research, but pediatric occupational therapists have been employing meditation with their patients on an informal basis for years. And that makes sense if one of the objectives of meditation is to put distance between an experience and our response. Seizing control of the interaction between their mind and body is a significant barrier for many children with an autism spectrum disorder. Aggression, both verbal and physical, is a potential risk for people with severe and chronic mental disorders being placed in society (Singh,et al., 2007). According to (Ahemaitijang, Hu, Yang, & Han, 2020) given its time and financial effectiveness, Meditation on the Soles of the Feet is particularly advised among the currently available effective therapies. Soles Feet is a non-formal mindfulness-based technique for controlling your own rage and aggressiveness. According to the results of the study the findings demonstrated that the three adolescents' levels of verbal, physical, and destructive conduct were high at start but fell to a reasonably low level with a declining tendency during the treatment settings and follow-up sessions. The findings unambiguously showed a statistical correlation between the Sole Feet therapy and the violent and destructive behaviors of ASD-affected teenage patients. Additionally, throughout the follow-up sessions, the adolescents showed low levels of physical aggressiveness, verbal hostility, and destructive behaviors. According to (Singh,et al,. 2018), by practicing meditation and recording results before and after the practice of meditation it was clear that verbal and physical aggression was relatively low as compared to the event which took place before meditation practice among the children with autism.

# Role of Virtual Reality – intervention Strategy

In addition to their behavioral issues, anxiety affects a large number of children in special education. Due to the person's inability to handle anxiety-provoking events, anxiety causes serious long-term issues and may be the cause of disruptive behaviors in the classroom. Therefore, special needs institutions need to provide treatments that assist teenagers in managing their anxiety and, as a result, reduce disruptive classroom behaviors. In a special education environment, this study suggests the possibility of the game DEEP as a therapy for anxiousness and aggressive classroom conduct (Bossenbroek, et al., 2020). The usage of video games which are based on virtual reality is a credible alternative strategy to improve mental health in children and adolescents. This method can be accepted as credible because it allows autism patients to experience real-life events in a safe environment and learn with different games it allows them to develop relaxing and understanding behavior which in result decreases anxiety and disruptive behaviors among them (Sadler, 2019).

# Conclusion

To conclude the findings from the research shows that excessive aggression is known as a way of communication among children who have autism, and they choose their aggressive emotions when they are trying to convey their message when they feel they are being neglected or their demands are not being met. To mitigate or decline this behavior among children with ASD it is important to look for strategies which are successful in getting positive results. The researcher identified that the use of process of meditation and education with the help of virtual reality innovation (DEEP) will be helpful in creating a sense of calmness and belongingness among children with ASD.

**References**

Ahemaitijiang, N., Hu, X., Yang, X., & Han, Z. R. (2020). Effects of meditation on the soles of the feet on the aggressive and destructive behaviours of chinese adolescents with autism spectrum disorder. *Mindfulness*.

Bossenbroek, R., Wols, A., Weerdmeester, j., Aschoff, A. L., Granic, I., & Rooji, M. M. (2020). Efficacy of a virtual reality biofeedback game deep to reduce anxiety and disruptive classroom behaviour single case study. *JMIR Mental Health*.

Giacomo, A. D., Craig, F., Terenzio, V., Coppola, A., Campa, M. G., & Passeri, G. (2016). Aggressive Behaviours and Verbal Communication Skills in Autism Spectrum Disorder. *Global Pediatric Health*.

Mazurek., O., M., & Sohl, K. (2016). Sleep and Behavioral problems in children with Autism Spectrum Disorder. *Journal of Autism Dev Discord*.

Njardvlk, U., & Smaradottlr, H. (2022). The Effects of emotions regulations treatment on disruptive behavior problems in children: a randomized controlled trial . *research on child and adolescent psychopathology*.

Ramires, V. R., Godinho, L. B., Cravalho, C., Gastaud, M., & Goodman, G. (2017). Child psychoanalytic psychotherapy: a single case study. *Psychoanalytics Psychotherapy*.

Sadler, K. M. (2019). Video Self-modeling to treat aggression in students significatly impacted by autism spectrum disorder. *Journal of special education technology*.

Singh, N. N., Lancioni, G. E., Karazsia, B. T., Myers, R. E., Kim, E., Chan, J. C., . . . Janson, M. (2018). Surfing the Urge: An informal mindfulness practice for the self-management of aggression by adolescents with autism spectrum disorder. *Journal of Contextual Behavioral Science*.

Singh, N. N., Winton, A. S., Adkins, A. D., Wahler, R. G., Sabaawi, M., & Singh, J. (2007). Individuals with Mental Illness can control their aggressive behaviour through mindfulness training. *Behavior Modification*.

Szabo, T. G. (2019). Acceptance and Commitment Training for Reducing Flexible Behaviours in children with autism. *Journal of Contextual Behavioral Science*.

wilson, A., & Maynard, B. R. (2018). Determining the effectiveness of behavior skills training and observational learning on classroom bhevaior: a case study. *Social work research*.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Publication Date, authors**  **APA Citation** | **Research Questions or Purpose of Study** | **Setting** | **Number of participants; age or grade level, disability** | **Overview of Procedures, IV’s, DVs, Research Design** | **Major findings** |
| Sadler, K. M. (2019). Video Self-Modeling to Treat Aggression in Students Significantly Impacted by Autism Spectrum Disorder. *Journal of Special Education Technology*, *34*(4), 215–225. | Research suggests that individuals with autism spectrum disorder (ASD) are at risk of exhibiting aggressive behaviors due to deficits in social communication and restricted and repetitive interests.  The experimental design was selected due to limitations in the school calendar; however, an alternative research design (e.g., multiple baseline) would be more effective at comparing the results across participants, conditions, and/or measures of the independent variable. | In school/Classroom setting | Number of participants: Three participants  Ages: the ages of 5, 12, and 14  Important characteristics, gender, specific disabilities, etc: Symptoms of ASD, who engaged in high rates of aggressive behavior, 3 male boys, | Aggression: The first dependent variable is aggressive behavior and is the same across participants. (Example: biting, hitting, kicking, scratching, pulling hair, or using items to cause harm to self or others). The second dependent variable is a replacement behavior (e.g., request a break, request an item) individualized per participant. **Independent**: The independent variable for this study was the VSM. The fundamental aspects of the VSM were consistent with previous studies: (1) the individual serves as the model  (2) the video features the individual independently performing the target behavior (3) the modeling video is less than 3 min in length (4) the individual watches the video daily  Test/Instrument name(s): tested preferences by applying reinforcement for various behaviors not targeted in the study and observing the consequential behaviors  Behaviors observed (list)  Measurement procedures: Each single case included three phases: baseline (Condition A), VSM intervention (Condition B), and VSM þ discrete instruction (Condition C). Condition A consisted of typical classroom interventions and direct observations of behavior. Condition B consisted of the student watching the video 1 time per day with the video presented prior to the start of typical school day  routines and viewed in a semiprivate setting. Condition C consisted of working with the author 2 times per week for approximately 30 min per session across two to three settings  Baseline or Control Condition  Intervention/Experimental Condition: Ryan, a 5-min partial interval recording system was used to collect data on the two dependent variables (aggression and replacement behavior. Jason and Mike, an event recording system on was used to collect data on the two dependent variables (aggression and replacement behavior) during times they were most likely to engage in aggressive behavior. | The experiment shows that all 3 child ren decreased in aggressive behavior and maintained that decrease postintervention. VSM may be further enhanced by controlling for external behavioral consequences. Both visual analysis and effects demonstrated decreases in aggressive behavior compared to baseline conditions and an immediate decrease in aggressive behavior upon the onset of the intervention conditions. When the VSM intervention was introduced, aggression decreased, suggesting that the intervention brought the behavior of all participants under some degree of control. |
| Singh, N. N., Lancioni, G. E., Karazsia, B. T., Myers, R. E., Kim, E., Chan, J., Jackman, M. M., McPherson, C. L., & Janson, M. (2019). Surfing the urge: An informal mindfulness practice for the self-management of aggression by adolescents with autism spectrum disorder. *Journal of Contextual Behavioral Science*, *12*, 170–177. https://doi.org/10.1016/j.jcbs.2018.10.003 | Three adolescents with ASD were taught Surfing the Urge, an informal mindfulness practice, to self-manage their verbal and physical aggression. The present study was an initial attempt to address a single question: Does Surfing the Urge show some promise as an informal mindfulness-based practice for adolescents with ASD to self-manage their aggressive behavior? | The adolescent's home on Monday, Wednesday, and Friday | Three Participants  Ages: 16,13 and 9 years old  Two boys and one girl. All youth have ASD that functioned at the borderline intellectual ability level participated. All three lived with their families and attended general education classes at local public schools. None of the three had ever been institutionalized or hospitalized for medical, behavioral, or psychiatric reasons. All three adolescents had been in various behavioral treatment programs, as well as on psychotropic medications for their aggressive behavior, but lasting change in their aggressive behavior proved elusive. | Behaviors observed: The parents recorded incidents of verbal and physical aggression. Verbal aggression was defined as yelling, screaming, cursing, or threatening physical harm to family members. Physical aggression was defined as kicking, hitting with a closed fist, biting, slapping, or punching family members.  Measurement procedures: The first two weeks of the intervention phase, for 30-mins per session, for a total training time of 3 hours.  Baseline or Control Condition: physical aggression reduced from baseline by about 60%. The aggressive behavior gradually increased to within. During baseline and intervention, the adolescents were on psychotropic medications prescribed specifically for their aggressive behavior  Intervention/Experimental Condition(s): Training was provided during individual sessions, with the mother and/or father present during the training. The trainer met with each adolescent after school at the adolescent's home on Monday, Wednesday, and Friday during the first two weeks of the intervention phase, for 30-mins per session, for a total training time of 3 h. Following the two-week training, the adolescents were required to independently practice and use Surfing the Urge practice whenever they experienced arising anger or verbal and physical aggression. | The study showed that initial proof-of-concept data attesting to the possible utility of Surfing the Urge practice as an informal mindfulness practice that can be used for the self-management of verbal and physical aggression by adolescents with ASD. This study provides proof-of-concept data from a small sample suggestive of Surfing the Urge practice as being an effective intervention for aggressive behavior. |
| Ahemaitijiang, N., Hu, X., Yang, X. *et al.* Effects of Meditation on the Soles of the Feet on the Aggressive and Destructive Behaviors of Chinese Adolescents with Autism Spectrum Disorders. *Mindfulness* **11,** 230–240 (2020). https://doi.org/10.1007/s12671-019-01246-z | Sole of feet is an informal mindfulness-based practice designed for the self-management of anger and aggression. Adolescents with autism spectrum disorder (ASD) display a variety of verbally aggressive, physically aggressive, and destructive behaviors. Meditation on the Soles of the Feet (Sole Feet) as an informal mindfulness-based practice has been effective in managing aggressive behaviors in adolescents with ASD. The aim of this study was to assess its effectiveness and social validity in a Chinese context. | Home of adolescents | Three Chinese adolescents  (Bai, Heng and Jun—pseudonyms)  Ages: 14,15,17 years old  Important characteristics, gender, specific disabilities, Diagnosed by their family physician as presenting with mild levels of autistic behavior on the ASD spectrum, participated in this study. All three participants functioned at ASD Level 1 requiring support. | The dependent variables were verbal aggression, physical aggression, and destructive behavior. Verbal aggression included yelling, cursing, threatening physical harm, or screaming at others. Physical aggression included hitting, biting, scratching, punching, kicking, slapping, and pinching. Destructive behavior included volitionally damaging, breaking, or destroying personal or family property.  Measurement procedures: The mothers of the adolescents rated the social validity of the Sole Feet practice on a five-item measure using a 5- point Likert-type scale (1 = strongly disagree, 5 = strongly agree). The mothers rated the items in terms of how much they agreed or disagreed with statements regarding the acceptability, effectiveness, unintended effects, likelihood of recommendation for use by others, and ease of implementing the Sole Feet procedure  This instruction was to ensure that those who provided Sole Feet training had a personal daily meditation practice of approximately 20 min a day. The training steps for Samantha meditation are presented in Table 1. Two 30- min sessions were required for the Samantha instruction for each mother. Mothers of three Chinese adolescents with ASD were taught a basic foundational meditation practice, followed by instructions in the Sole Feet practice. Once proficient in these two practices, the mothers taught their adolescents with ASD to use Sole Feet for triggers of their aggressive and destructive behaviors. The mothers rated the social validity of the Sole Feet practice. There were three experimental phases: baseline, Sole Feet training and practice, and follow-up for 1 year. The Sole Feet training and practice phase was in effect for 37, 35, and 32 weeks for Bai, Heng, and Jun, respectively. | The data showed that verbal aggression, physical aggression, and destructive behaviors were at a high-level during baseline but decreased to a relatively low level, with a descending trend, under the intervention conditions and follow-up sessions for the three adolescents. Data regarding effectiveness and social validity indicated that the Sole Feet practice was effective and socially valid as a self-management practice for aggressive and destructive behavior of adolescents with ASD. Further studies of the Sole Feet practice are needed to validate its effectiveness for Chinese children with ASD. |
| Mazurek, M. O., & Sohl, K. (2016). Sleep and Behavioral Problems in Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, *46*(6), 1906–1915. https://doi.org/10.1007/s10803-016-2723-7 | The purpose of the current study was to examine the relationships between distinct types of sleep problems and behavioral problems. The specific behavior problems selected for examination were aggression, irritability/hostility, inattention, and hyperactivity, given their particular clinical relevance in the ASD population. The primary hypothesis was that sleep problems would be associated with daytime behavioral disturbance among children with ASD. The secondary research aim was to identify the specific types of sleep symptoms that were most closely related to each behavioral problem. | Home setting | Participants included parents of 81 children with ASD. Children ranged in age from 3.6 to 19.6 years (M = 10.3, SD = 3.8). The majority of children in the study were male (86.4 %), Caucasian (93.6 %), and not Hispanic or Latino (92.6 %). Most children lived with both biological parents (66.7 %).  Participants were recruited through an academic medical center specializing in diagnosis and treatment of children with ASD and other neurodevelopmental disorders. All participants had been previously evaluated and diagnosed by an interdisciplinary team, comprised of a physician and psychologist. Evaluations included administration of standardized diagnostic tools (i.e., ADOS or ADOS-2), cognitive and adaptive skill assessment, clinical interview, and other measures deemed appropriate based on presenting concerns. | All measures were then completed online using a web-based survey platform.  Parents completed a demographic survey developed for the current study, which included child age, sex, race, ethnicity, and family composition. The Children’s Sleep Habits Questionnaire (CSHQ) was used to examine different domains of sleep disturbance. The original CSHQ wording instructs parents to rate how often each sleep behavior occurs on a three-point scale, as follows: 1 = ‘‘rarely’’ if the behavior occurred never or one time per week, 2 = ‘‘sometimes’’ if the behavior occurred two to four times per week, or 3 = ‘‘usually’’ if the behavior occurred five to seven times per week. In the current study, parents were asked to rate the frequency of the same behaviors on a 7-point scale, using the full range of possible responses (i.e., ranging from never to 7 times per week.). | The results suggest that careful assessment of sleep quality and sleep behaviors should be an important consideration for clinicians targeting behavioral problems in children with ASD.  The results showed that sleep duration, night awakenings, and parasomnias were significantly correlated with all four behavior problems examined. Sleep anxiety was positively correlated with both irritability and hyperactivity, while daytime sleepiness was positively  correlated with irritability, but not with other behavioral difficulties. The current results suggest that careful assessment of sleep quality and sleep behaviors should be an important consideration for clinicians targeting behavioral problems in children with ASD.  /\*-ZXcvb nm,./ The results suggest that careful assessment of sleep quality and sleep behaviors should be an important consideration for clinicians targeting behavioral problems in children with ASD.  The results showed that sleep duration, night awakenings, and parasomnias were significantly correlated with all four behavior problems examined. Sleep anxiety was positively correlated with both irritability and hyperactivity, while daytime sleepiness was positively  correlated with irritability, but not with other behavioral difficulties. The current results suggest that careful assessment of sleep quality and sleep behaviors should be an important consideration for clinicians targeting behavioral problems in children with ASD. |
| Njardvik, U., Smaradottir, H., & Öst, L. G. (2022). The Effects of Emotion Regulation Treatment on Disruptive Behavior Problems in Children: A Randomized Controlled Trial. *Research on Child and Adolescent Psychopathology*, *50*(7), 895–905. https://doi.org/10.1007/s10802-022-00903-7 | The purpose of this study was to assess the effects of Tuning Your Temper, a brief cognitive behavioral program, on disruptive behavioral problems in children. The hypothesis suggests that children who receive Tuning Your Temper would show greater reduction in disruptive behavior problems than children in the wait-list control condition, and that these effects would be retained at follow-up assessment six months post treatment. The main research question being tested in this study was whether young children in the early grades of elementary school would show improvements in behavior after a very brief CBT intervention delivered at school with minimal parental participation. | Treatment was conducted at school. | 125 children  aged 6–11 years old  Participants were referred to the study by the schools’ psychologists. In the study children had to previously have been referred to psychological services due to behavioral problems at school (verbal/physical aggression, noncompliance, temper outbursts or frequent conflicts with peers) and be Icelandic speaking. Exclusion criteria were IQ<70 and diagnosis of an autism spectrum disorder but as some children were on the waiting lists for services at their school, this information was not available for all children. | Measurement procedures: The study was conducted in two waves. In a few instances in wave 1, children received a diagnosis of autism spectrum disorder (ASD) or were measured as having an IQ.  The study included standard demographic questions, i.e. child’s age, gender and medication status; parents’ age, gender, education and marital status; teachers’ age, number of children in their class and how long they had known the child.  The program consists of six weekly 60 min sessions focusing on three factors: 1) Knowledge and understanding: Children learn to recognize their emotional reactions and become aware of the situations where their weaknesses are most likely to cause difficulties. 2) Behavioral control: Children learn and practice new ways to control their emotional reactions and express their emotions and wishes in a more adaptive manner. 3) Changed way of thinking: Children overcome their potential hostile attribution bias, assess their environment in a more detailed manner and use a greater number of environmental cues before choosing to react. | A significant reduction in behavior problems for the treatment condition on both measures and effects were maintained at 6-month follow-up. Results were more robust for teacher ratings, with medium to large effect sizes. Tuning Your Temper appears to be a promising early intervention program for children with disruptive behavior problems at school. |
| Vera Regina Röhnelt Ramires, Lucia Belina Rech Godinho, Cibele Carvalho, Marina Gastaud & Geoff Goodman (2017) Child psychoanalytic psychotherapy: a single case study, Psychoanalytic Psychotherapy, 31:1, 75-93, DOI: 10.1080/02668734.2017.1280692 | The present study sought to analyze the first year of the psychotherapeutic process of a  boy aged seven who was referred for psychotherapy. A descriptive study was  performed, based on a single case study design. Child psychoanalytic psychotherapy is a specific approach to the treatment of emotional, social, and behavioral problems in children. | psychology office | two participants (One male child and therapist participated in the study.)  7 years old  One male child and his therapist participated in the present study. George was seven years old when his parents sought help due to his relationship problems at school, aggressive behavior, and anxiety symptoms. George’s therapist was female, had 23 years of clinical experience, was a specialist in psychoanalytic psychotherapy and held a master’s degree in clinical psychology. | The main measure was the Child Psychotherapy Q-Set– CPQ, a procedure used to analyze the psychotherapeutic process in 3–13-year-olds.  The sessions were held weekly and lasted 50 min. Monthly interviews by the same therapist were conducted with the parents to collect additional data and orient them to the psychotherapeutic process. All the child’s sessions were filmed. | In this single case study, it was observed that the use of the psychodynamic model was beneficial to a boy who presented with disruptive mood dysregulation disorder. |
| Bossenbroek, R., Wols, A., Weerdmeester, J., Lichtwarck-Aschoff, A., Granic, I., & van Rooij, M. M. J. W. (2020). Efficacy of a Virtual Reality Biofeedback Game (DEEP) to Reduce Anxiety and Disruptive Classroom Behavior: Single-Case Study. *JMIR Mental Health*, *7*(3), e16066. https://doi.org/10.2196/16066] | This study aimed to evaluate the effect of a virtual reality biofeedback game, DEEP, on daily levels of state-anxiety and disruptive classroom behavior in a clinical sample. In addition, the study also aimed to examine the duration of the calm or relaxed state after playing DEEP. The primary aim in this study was to investigate the effect of DEEP on daily levels of state-anxiety and disruptive classroom behavior in a clinical sample. It was expected that playing DEEP would reduce both participants’ state-anxiety and disruptive classroom behavior. No specific hypotheses were formed as this is the first study examining the duration of the effect of playing DEEP | Classroom | 8 adolescents  mean age 14.67, SD 1.83 years  Participants attended a secondary special school for students with behavioral and psychiatric problems in the northern part of the Netherlands. Adolescents were considered eligible for the study if teachers had the impression that the adolescent showed symptoms of anxiety, displayed disruptive behaviors in the classroom, and could handle the burden of completing momentary questionnaires. All participants were of Dutch descent. | A and B phases were alternated several times over a period of 4 weeks (20 schooldays in total). All participants started with the A0 baseline phase, which lasted for 5 or 6 days. After the baseline phase, the first intervention period (B phase) began. The B phases usually lasted for 1 day, in which participants completed 1 DEEP session in the morning. some participants played DEEP on 2 subsequent days because the planned DEEP sessions did not synchronize with the participants’ schedule.  A personalized questionnaire about each participant’s disruptive behavior was developed. Afterward, participants filled in questionnaires regarding their demographics and trait-anxiety at pretest. Then, participants completed the ABAB study that lasted for 4 weeks. The study procedure was followed twice; in the first block, participants 1 to 4 participated, and in the second block, participants 6 to 8 participated. Participant 5 participated in both blocks. After participation, participants, and their teachers both received a monetary compensation of €25.00. | The study was to test the effect of playing DEEP on daily levels of state-anxiety and disruptive classroom behavior. On a group level, results indicated a small-sized reduction of state-anxiety after the introduction of DEEP. On the individual level, strong evidence was found for 5 out of 8 participants as their NAP scores indicated a medium-sized reduction and their level of anxiety  seemed to decrease over the course of the intervention. the current findings indicate that,  on a group level, DEEP reduces daily levels of state-anxiety. |
| Ervin, T., Wilson, A. N., Maynard, B. R., & Bramblett, T. (2018). Determining the Effectiveness of Behavior Skills Training and Observational Learning on Classroom Behaviors: A Case Study. *Social Work Research*, *42*(2), 106–117. https://doi.org/10.1093/swr/svy005 | The purpose is to examine the effects of behavior skills training (BST) paired with observational learning of students’ engagement in and responses to disruptive behavior in the classroom setting. It was hypothesized that increases in appropriate responses to peers’ disruptive behavior during classroom observations would increase for both the models and observers following training. | Classroom observations occurred within the models’ primary classrooms in the school. | Students were selected from two special education classrooms based on the following criteria: (a) teacher and school administrator identification of engagement in classroom disruptive behavior, (b) direct observation by the first or second author of engagement in classroom disruptive behavior and inappropriate responses to disruptive behavior, and (c) parental consent to allow student to participate. | Observations were conducted in 30-minute  sessions throughout the day, with one to five sessions occurring each week. We used a five-second momentary time sampling method to collect observational data. Data were collected at the end of each five second interval, and researchers recorded whether the specific student (model or observers) was engaging in disruptive behavior, not engaging in disruptive behavior, or out of the room at the end of that interval.  Baseline engagement in disruptive behaviors was relatively low but variable response patterns were observed across both classrooms. Baseline classroom observations suggested that students were not responding appropriately to peer disruption in a consistent way. | The study shows the effectiveness of using a combined interdisciplinary approach to teaching children with EBDs how to engage in socially appropriate behaviors that is both feasible and acceptable. The effects of BST combined with observational learning with other populations and problems could also be explored as this intervention is readily adaptable to different behaviors and populations. |
| De Giacomo, A., Craig, F., Terenzio, V., Coppola, A., Campa, M. G., & Passeri, G. (2016). Aggressive Behaviors and Verbal Communication Skills in Autism Spectrum Disorders. *Global Pediatric Health*. https://doi.org/10.1177/2333794X16644360 | The aim of the present study was to investigate the relationship between aggressive behavior, such as self-aggression and other aggression, with verbal communication ability and IQ level in children with ASD. The purposes of our study, much attention was focused on individual items of the Autism Diagnostic Observation Schedule and the Autism Diagnostic Interview–Revised that were useful to evaluate the aggressive behavior. We have not found any association between aggressive behavior (other-aggression and self-aggression) and the absence of language or low IQ in children with ASD. | Youth Home | 88 children with a diagnosis of ASD  2 to 11 years old (7 females and 81 males)  Parental informed consents were obtained from all participants. We only selected children with a diagnosis of ASD. Diagnoses were made by child psychiatrists specialized in assessment of ASDs. | Each child is given 1 of 4 different ADOS modules, selected according to age and language level of participants. The score (from 0 to 3) for each question is given by a diagnostic algorithm that provides cutoff values for diagnosis of 2 subcategories: “Autistic Disorder,” when cutoffs for autism are reached or exceeded in social and communicative domains (ADOS-A and B); “pervasive developmental disorders (PDD)-NOS,” when cutoffs for ASDs are reached or exceeded in communication (ADOS-A), social (ADOS-B), and linguistic (TOT A + B) domains.  Descriptive statistics were used to summarize the variables studied and the characteristics of the subjects. Chi-square test was used to evaluate the presence/absence of other-aggression or self-aggression in our sample (in the total sample and in each group), according to items ADI 81, ADI 82, and ADOS E2 for other-aggression, and ADI 83 and ADOS-D3 for self-aggression. To identify possible differences among variables of the tests, we used the χ2 test. | The study highlights how the aggressive component is present especially in children with ASD. There has been no found any association between aggressive behavior (other-aggression and self-aggression) and the absence of language or low IQ in children with ASD. The degree of severity of autism is probably the most important risk factor for this behavior. The study shows that children with verbal communication deficits reported more aggression toward other people than verbal children without statistically significant differences. |
| Szabo, T. G. (2019b). Acceptance and Commitment Training for reducing inflexible behaviors in children with autism. *Journal of Contextual Behavioral Science*, *12*, 178–188. https://doi.org/10.1016/j.jcbs.2019.03.001 | In purpose of the study was to conduct a direct contingency functional analysis of the inflexible behavior of three children with autism and developed a function-based treatment. Adopted a novel hypothesis that insensitivity to the direct contingencies was the result of excessive tracking. | Youth Home in Livingroom | Three boys 8–10 years of age  All three boys have autism. All three boys (Paul, 9-years-old, Raul, 10-years-old, and Chin, 8-years-old) were selected for treatment based on their history of tantrums related to deviations from previous rules they had learned with playing games and other activities. Consent from parents and assent from each child was obtained prior to their participation in the study. | Each participant received a 4- hour training in acceptance and commitment delivered by ACT trainer. Five subsequent training sessions were conducted in half-hour segments by the second, third, or fourth author. Subsequent trainings involved additional ACT training exercises and discrimination training for times when manding for rule changes is and is not acceptable.  Baseline sessions were 45 min in length and consisted of multiple trials of Spot It in which the game parameters were set to be within each participant's current repertoire. After participants mastered the game and regularly asked to play, new parameters were set that were more challenging, then evoking inflexible responses. | It was evaluated the utility of a 4-hr ACT training intervention for increasing flexibility in the context of novel rules during game play among children with autism. Behavior was evaluated at one- and two-months post intervention and found the treatment results durable and generalized to novel contexts. The ACT Training intervention strategies were faded after a few sessions prior to maintenance and generalization probes. |