

Research Paper

Occupational Therapy's Impact on Emotional Regulation, Self-Efficacy and Therapeutic Alliance Among Children with Autism

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ABSTRACT

The goal of occupational therapy (OT) is to assist people of all ages in becoming more independent and in their capacity to engage in various everyday activities, or "occupations." Activities linked to work or school, leisure activities, and self-care (such as eating, washing, and dressing) may all be included in these professions. This intervention hasn't been explored in depth especially with regards to checking its usefulness in helping children with autism. This study examines the impact of occupational therapy (OT) interventions on a range of psychological factors in youngsters who lie on the spectrum of autism spectrum disorder (ASD). The study looks at changes in expressive suppression, cognitive appraisal, therapeutic alliance, and perceived self-efficacy after occupational therapy sessions using a pre-post test design. Wilcoxon Signed Rank tests and mean rank comparisons were utilized to examine the data. The findings show a significant post-intervention improvement in every indicator that was examined.

Keywords: Occupational Therapy, Expressive Suppression, Cognitive Appraisal, Therapeutic Alliance, And Perceived Self-Efficacy

The term "developmental disorders was first introduced in DSM -III(APA,1980). In DSM-5, the category of "neurodevelopmental disorders" (NDDs) was established (APA DSM,2013). Numerous illnesses fall under the category of neurodevelopmental disorders, including autism spectrum disorder (ASD), epilepsy, and intellectual disability. Early childhood onset symptoms, initially reported more than 60 years ago, are present in patients with ASD(Kanner,1943). These symptoms are present lifelong and result in significant deficits in cognitive, behavioral, social, and communication abilities. (Moldin et.al ,2006).

AUTISM SPECTRUM DISORDER

An individual diagnosed with ASD may have difficulties with learning, behavior, communication, and social interaction. ASD includes a vast array of issues. Their differing degrees of communication and social engagement challenges set them apart.

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ICD-11(2022), chapter 6, section A02- “Autism spectrum disorder is characterised by persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication, and by a range of restricted, repetitive, and inflexible patterns of behaviour, interests or activities that are clearly atypical or excessive for the individual’s age and sociocultural context.” It has been demonstrated that younger children and those with moderate symptoms can be accurately identified using the DSM-5 criteria.(Maenner et.al,2014 ; Wiggins et.al ,2019).As stated by Nationwide Children’s Org. a toddler may exhibit the following symptoms of ASD:

- restricted pointing or babbling by 12 months
- No single words or two-word phrases by the time a child is two years old or older.
- By twelve months, there has been no reaction upon hearing their name.
- loss of social or language proficiency
- little eye contact
- restricted smiles or social interactions
- limited item sharing—pointing, demonstrating, or bringing—to communicate their curiosity with others.

All ASD children exhibit deficiencies in social relatedness, which is the innate desire to form connections with people and experience similar emotions. (Rogers & Benneto ,2000).

EPIDEMIOLOGY

Globally, an estimated 1 in 100 children suffer with autism (Zeidan J et al.,2022). With context to the Indian population, studies on its occurrence in communal settings are few and far between. Moreover, estimating the precise prevalence of ASD is challenging due to the inconsistent use of fully validated and translated autistic diagnostic methods. (Rudra et.al, 2014)

ETIOLOGY

Autism Spectrum Disorders (ASDs) can easily be inherited from biological family. (Bailey, Phillips & Rutter,1996). While the primary cause of ASDs is thought to be genetic, environmental influences may influence how phenotypic expression is expressed.(Bailey , Courteur & Gottesman,1995).The etiology is multifaceted, including genetic and environmental reasons.(Veenstra et.al, 2004)

The male predominance raises the possibility that autism is inherited genetically. A number of genetic processes, such as imprinted genes and X chromosome-causative genes (X-linked diseases), might result in male predominance; nevertheless, the exact cause of male predominance in autism is yet unknown. (Rutter,2005)

TREATMENT

Like other neurodevelopmental disabilities, ASDs are typically not “curable”; rather, continued care is required. Most adult children with ASDs stay on the spectrum because most of them struggle with independent living, work, social relationships, and mental health, regardless of their intellectual functioning. This is true even though the outcomes can vary and certain behavioral traits can change over time. (Volmar et.al, 2005; Howlin et.al, 2004)

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OCCUPATIONAL THERAPY

Occupational therapy (OT) is a comprehensive approach that centres on empowering people to engage in purposeful activities and careers. Occupational therapists are vital to the treatment of sensory processing issues, motor skill development, social engagement, and general well-being in children with autism. Occupational therapists work to empower children with ASD to acquire the fundamental skills needed for everyday life and social interaction using a combination of treatment approaches and tailored interventions.

Children who have mild to moderate autism could possibly get help from occupational therapy and can better manage their daily tasks and navigate their surroundings. Discover more about the various therapies and tactics that occupational therapists (Ots) employ while working with clients who have autism by continuing to read.

Additionally, occupational therapists can help with prevocational training, altering routines and materials in the classroom to promote organization and attention, and supporting the development of play skills. Occupational therapy's effectiveness in treating ASDs, however, hasn't yet been well explored. For people with ASDs, sensory integration (SI) therapy is frequently utilized either independently or in conjunction with a more comprehensive occupational therapy program. The main objective of SI therapy is to cater to issues related to neuronal processing and integration of sensory data, instead of teaching specific skills or behaviors, so the individual can participate with worldly activities in a more adaptive manner. Children with ASDs frequently have unusual sensory reactions, but there isn't enough proof to distinguish these symptoms from other developmental abnormalities, nor is there a clear indication of the effectiveness of treatment. (Baranek, 2002; Rogers & Ozonoff, 2005; Dawson & Watling, 2000)

Occupational therapy benefits for autism

Enhancing the person's overall success in all facets of life is the aim of occupational therapy when applied to populations of autistic individuals. To do this, everyday life skills are taught and modified, which promotes greater independence. As stated by Applied Behavior Analysis Programs Guide, it is hoped that by practicing and teaching these abilities, the kid would be able to perform tasks on their own, like:

- Pay attention to your schoolwork.
- Sustain mutually beneficial connections.
- Play along with others.
- Control your self-control
- Express your feelings

Three essential components of psychosocial development that greatly affect an individual's life are emotional regulation, self-efficacy, and the therapeutic relationship. Children with autism frequently struggle to control their emotions, which can lead to meltdowns, tantrums, or withdrawal. These difficulties not only affect their immediate well-being but also make it more difficult for them to interact socially and form lasting relationships. Effective intervention delivery and outcomes depend on the development of a strong therapeutic alliance between the child, therapist, and caretakers. Developing a feeling of self-efficacy also gives kids with ASD the confidence to know they can succeed in a variety of areas of life and overcome obstacles.

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EMOTIONAL REGULATION

Even though ASD has gotten significantly less study attention than other mental illnesses, disrupted ER is likely to play a major role in creating aberrant behavior in ASD as well. A notable alteration in behavior is likely an indication of ER failure in ASD. It is common to view self-harm, violent conduct, uncontrollable furious outbursts, and tantrums as deliberate or provocative. (Mazefsky & White ,2014)

The ability to assess, monitor, and adjust one's emotional state (to raise or lower) in order to accomplish a goal is known as emotional regulation (ER). (Gross, 2013). Majority of studies on ASD has concentrated on emotional experience rather than ER. These findings collectively suggest that youth with ASD are less able to discriminate between different emotions, exhibit more negative affect than positive affect, and experience the physiological impacts of emotion with limited cognitive comprehension. (Samson, Huber & Gross, 2012). When describing their emotions, children with high-functioning ASD may employ overt clues (such as "I was sad because I was crying") and give vague assessments of their experiences. (Losh & Capps,2006)

THERAPEUTIC ALLIANCE

With regard to children with Autism, the therapeutic alliance is especially important since it has a major impact on the efficacy of interventions and overall therapeutic results. Building Trust and Rapport: Kids with Autism Spectrum Disorder (ASD) frequently have trouble communicating socially and may find it difficult to build rapport and trust with others, including therapists. An environment of safety and support where the child feels understood, accepted, and respected is provided by a positive therapeutic partnership. In therapy sessions, developing rapport and trust is the first step toward effective communication.

To effectively define goals, execute interventions, and track progress, there must be effective communication between the child, therapist, and caregivers. This requires facilitation of communication and collaboration. Facilitating collaboration amongst all parties engaged in the therapeutic process, the therapeutic alliance fosters an environment where open communication is encouraged and the kid is able to communicate their views, feelings, and needs.

Interventions Should Be Tailored to Specific Needs: Each child with ASD is different, having their own preferences, strengths, and challenges. Therapists can better understand each child's unique needs, interests, and learning styles by forming a collaborative therapeutic relationship, which enables them to customize therapies. Therapists are able to provide meaningful, pertinent, and successful interventions by acknowledging the kid's point of view and collaborating with both the child and caregivers

PERCIEVED SELF EFFICACY

Perceived self-efficacy—that is, one's belief in one's ability to complete jobs and fulfil objectives—is highly significant. Feelings of self-efficacy are important for kids with ASD for the following main reasons:

Encouraging Autonomy and Independence: Children diagnosed with any neurodevelopmental disorder often experience problems in a number of areas of daily life, such as social interaction, adaptive behavior, and communication. The ability to actively participate in their own growth and speak up for themselves is a gift that children with perceived self-efficacy receive. The younger population with autism can be empowered to

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make decisions, solve problems, and participate in activities on their own, so enhancing their autonomy and self-determination, when their abilities are supported and believed in.

Fostering Social Interaction and Peer Relationships: Since children with ASD frequently have difficulty interpreting social cues and forming peer relationships, social skills development is an important area of focus for these kids. Dealing with social situations and building strong relationships with peers require a high degree of perceived self-efficacy. Children are more inclined to strike up discussions, participate in group activities, and look for chances for social engagement when they have confidence in their social skills. This leads to enhanced social skills and peer acceptability.

Developing Resilience and Coping Skills: Academic difficulties, social interactions, and sensory experiences are just a few of the life challenges that children with Autism Spectrum Disorder (ASD) may face. Because it makes it possible for kids to deal with obstacles and failures, perceived self-efficacy fosters resilience. Kids who have confidence in their capacity to conquer obstacles and endure hardships are more capable of recovering from losses, addressing problems, and adjusting to shifting conditions.

Encouraging Advocacy and Self-Advocacy: Children with a good level of self-efficacy are better able to speak up for their own needs and preferences. Perceived self-efficacy helps kids take an active role in decision-making and advocate for accommodations and support services that suit their specific requirements by fostering a belief in their abilities to speak clearly, articulate their feelings, and stand up for their rights.

Increasing General Well-Being and Quality of Life: In the end, by encouraging a sense of competence, mastery, and control over their surroundings, perceived self-efficacy helps children's general well-being and quality of life. Better mental health and psychosocial outcomes result from children with ASD having confidence in their own abilities to succeed and thrive. These children also feel more fulfilled and satisfied in their life.

REVIEW OF LITERATURE

Rilveria (2022) concluded that Parents and other caregivers who feel that they have a strong therapeutic alliance with their child's therapist are more likely to stick with the intervention, which will extend the therapy's duration. Whereas the qualitative approach sought to interpret and put the quantitative results into context, the quantitative method sought to test the hypotheses. Purposive and snowball sampling were used to recruit 124 parent-caregiver dyads for the quantitative phase. The following requirements were satisfied by the attendees. Eight parent-caregiver pairs who received the top eight scores during the qualitative phase were invited to take part in a brief interview in which questions about their experiences with alliance-building, parenting, and caregiving were posed.

Rezayi (2022) evaluated the impact of a sensory-based, intense contact intervention program on the problematic behaviors of autistic children. Pre- and post-test designs with a control group were used in this quasi-experimental study methodology. Twelve low function autistic children from the Kahrizak Autism Center made up the sample size, and they were chosen using the available sampling technique. An intervention program was run for 40 days, with 10 sessions in a row for 40 days for the experimental group. Parental participants refilled the updated challenging behavior scale as a post-test following the intervention sessions.

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Findings suggest that all experimental group subjects' difficult behaviors decreased as a result of the intervention program.

Mubarak (2022) examined the connection between psychological stress and parents' perceived self-efficacy about their autistic children is the goal. For the current study, 125 moms and dads gave their permission to participate. Fifteen parents did not complete the survey completely, so their information was not included. Included were the 110 surviving cases. It appears from the research that having a child with autism causes distress for both parents. The results of earlier research were supported by this study, which indicated that moms of autistic children's parenting perception of competence strongly adversely influenced parental stress.

Schoen, Reynolds & Andelin (2021) completed a research to study the Effectiveness of Occupational Therapy Using a Sensory Integration Approach. Sample size was three boys with an SBMD. Everyone received ASI thrice each week for 10 weeks. The findings of the Bruininks–Oseretsky Test of Motor Proficiency–Second Edition (BOT–2) and goal attainment scaling (GAS) were obtained both before and after the tests. Based on their results, ASI helps children with idiopathic sensory processing and integration issues reach high goals and improve their motor skills.

Olmedo et.al (2021) looked at how occupational therapy helps kids with autism spectrum disorder manage their food preferences. The therapies used in occupational therapy (OT) for children with ASD who exhibit food selectivity were described in a peer scoping review that we conducted. Two researchers looked through the OT journals listed in Journal Citation Reports, as well as the databases PubMed, Scopus, Web of Science, and EMBASE on their own. Treatments that focus on the sensory-behavioral development of the child and the family are the main occupational therapy approaches used to address fussy eating in children diagnosed with autism spectrum disorders. Food selectivity appears to have improved with the available therapy.

Grajo, Candle & Sarafian (2020) analyzed the efficacy of occupational therapy-related activities to improve youth's participation for the age range of 5 to 21 years. Yoga has intermediate strength of evidence supporting their use to increase educational involvement. Therapeutic handwriting intervention is supported by strong evidence, while different handwriting programs that supplement or add to existing teaching methodologies to improve handwriting abilities are supported by weak evidence.

Kaur, Sahib and Ranjit (2019) looked at how play/fun-based occupational therapy (OT) improved the communication skills of kids with mild neurodevelopmental disorders. We used VABS-II to assess their preintervention and postintervention scores in the socializing domain and its subcomponents (interpersonal, play and leisure, and coping abilities). The sociability domain showed improvement in each of its three subdomains. Improvement was shown in the children's play and leisure subdomain ratings. The kids showed improvement in their subdomain scores for coping abilities. And leisure subdomain ratings. The kids showed improvement in their subdomain scores for coping abilities.

Riosa, Khan & Weiss (2019) looked at the Therapy Process Observational Coding System–Alliance Scale's psychometric qualities (TPOCS-A). The sample comprised of 20 autistic children (19 of them male) between the ages of 8 and 12 and the adult gaurdians. Following

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the viewing of videotaped therapy sessions, two trained coders used the TPOCS-A to determine the parent-child alliance's early, middle, and late scores.. Additionally evaluated were the therapist-reported levels of adherence, alliance, and child involvement. We examine the consequences of looking at TA in treatments for this population that have empirical backing.

Klebanoff et.al (2019) analysed the therapeutic alliance in kids getting cognitive behavioral therapy who had autism and clinical anxiety. Parents, therapists, and a sample of 64 children and teens (ages 7–14) with anxiety and autism spectrum disorder were given the Therapeutic Alliance Scale for Children. There was also a reference sample (N = 36; aged 5–12) of typically developing kids with clinical anxiety. When children with autism spectrum disorder get cognitive behavioral therapy, a strong therapeutic connection seems to be linked to better treatment outcomes. Children with autism spectrum disorder showed lower levels of anxiety after therapy when therapists reported a positive child-therapist bond.

Schoen, miller & Fanagan (2018) investigated the effects of a short-term, intense program that heavily involves parents and integrates relationship-based and sensory integration therapy. A retrospective document analysis looked at routine clinical data from 179 kids who were diagnosed with sensory processing issues but did not also have autism. The data was collected before and after the interventions. We assessed changes in motor functioning, affective functioning, adaptive behavior, and sensory-related behaviors. Results imply that improvements were observed in each area from pretreatment to posttreatment. Following treatments, there was a notable decrease in externalizing and behavioral issues linked to sensory seeking symptoms.

Reiss, perreira & Almeida (2018) assessed, using the DIR/Floortime™ model as a foundation, the outcomes of a customized intervention for kids having autism. Preschool-aged children with ASD, ages ranging from three to six years, received care from a multidisciplinary team consisting of psychologists, occupational therapists, and speech and language pathologists. The findings show that the mean scores in the "social communication" and "sensory processing" domains were substantially altered by children. The results demonstrated that this play-based intervention, which placed a strong emphasis on fostering relationships and interactions, had a positive effect on the early development of sensory modulation and communication in kids with ASD.

Blacher, Eisenhower & Berkovits (2017) did a research to evaluate how well children can regulate their emotions and how this relates to other areas of their development. Sample size was 108 children diagnosed with ASD and their caregivers. Ten months apart, parents completed surveys on their children's behaviour issues, social skills, and ability to control their emotions. The results of further analyses indicate that emotion dysregulation predicts increases in social and behavioural issues over time, with implications for intervention. Emotion dysregulation was shown to be stable and substantially correlated with social and behavioural functioning, but it was mainly distinct from IQ.

Kerns et.al (2017) examined therapeutic alliance and how it related to the traits of the kid and the effectiveness of anxiety treatment for young people with autistic tendencies. Youth (N = 64) with co-occurring anxiety and autism spectrum disorder (7–16 years old, IQ > 70) had 16 sessions of modular cognitive-behavioral treatment. Pre- and post-treatment assessments of child behavior were collected, as well as ratings of alliance from the

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therapist, the youngster, and the parents. Alliance evaluations were comparable to those of kids without autism spectrum condition. Therapist assessments of the strength of the alliance were substantially correlated with treatment outcome measures, but not with baseline variables. Research indicates that the therapeutic relationship may be linked to the success of therapy and may not be compromised in nervous young people with autism spectrum disorder.

Kashefimehr et.al (2018) evaluated the effects of sensory integration therapy (SIT) on a number of occupational performance components in children with ASD. The study included sixteen children getting SIT as the intervention group and fifteen control children with ASD, ages three to eight. The sensory difficulties were assessed using the Sensory Profile (SP), and the differences in occupational performance between the two groups were compared using the SCOPE. With the exception of the "emotional reactions" and "emotional/social responses" areas, the intervention group significantly outperformed the control group in all SCOPE and SP dimensions ($p < .05$). findings confirm the importance of SIT in increasing occupational performance in kids with ASD.

Glueck & Goldstein (2016) discussed the unique aspects of developing a therapeutic alliance and rapport when performing videoconference mental health assessments for kids and teenagers. The authors conduct a literature review and provide an account of their experience in telemental health practice, including conducting mental health assessments, building rapport, and forming a therapeutic alliance. Teleclinicians can and do establish a therapeutic alliance and rapport with youth and families during telemental health sessions, according to growing evidence and clinical experience.

Winston et.al (2016) examined how a close knit group affects the excitement and fun in kids with different, as well as the responsiveness of their caregivers using a pretest–post test, repeated-measures approach. Sample of 8 child caregiver duo was collected through purposive sampling. To assess playfulness, video recordings from four time points spanning four minutes were utilized. Findings suggest that participation in the playgroup dramatically boosted children's playfulness, as shown by a repeated-measures analysis of variance. Analysis did not detect a change in caregiver responsiveness.

Weiss et.al (2016) investigated the relationship between parents' experiences of self-efficacy and demographic, systemic, and clinical need variables. 324 parents of people with autism spectrum disorder, ages 12 to 25, were among the participants. The findings indicate that a variety of factors, including child age, parent immigrant status, obstacles to service access, and caregiver load, are associated with parent self-efficacy rather than just a child's clinical circumstances.

Mckenna & Preiss (2014) conducted a research in order to ascertain whether: (a) SIT enhanced the communication skills of autistic children, particularly their spontaneity, utterance complexity, and engagement; (b) effects persisted after SIT was provided; and (c) effects were uniform among young autistic children with various learning profiles. A design of applied behavior analysis with a single subject was used. In terms of engagement, complexity of speech, and spontaneity, everyone fared better in the post-occupational therapy situations and worse in the pre-occupational therapy condition.

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Iwananga et.al (2014) investigated how effective sensory integration therapy (SIT). Twenty children with HFASD and IQs above 70 were included as participants. Twelve people engaged in group therapy (GT) that included kinetic activities, child-parent play, social skill development, and communication training over the course of eight to ten months, while the remaining eight people attended individual SIT sessions. According to results, SIT has a greater beneficial influence with HFASD's motor coordination skills, nonverbal cognitive abilities, and combined sensory motor and cognitive skills.

Weiss et.al (2013) examined 138 mothers of children with ASD, ages 4 to 41, to see if parent self-efficacy, social support, and family toughness were markers of family hardship, it was shown that family toughness acted as a semi regulator in the relationship between stressors and family distress, and that the connection between the accumulation of stress triggers and family toughness was regulated by perceived self-belief in one's abilities and support from surroundings. Self-efficacy and social support are explanations for changes in hardiness and can also explain caregivers' views of hardship in the family.

Gaps in Research

After a thorough review of past researches, it is evident that there is a lack of focus on the practical applications and effectiveness of Occupational Therapy since CBT is usually the main focus of studies. There are gaps in understanding how it specifically impacts emotional regulation, therapeutic alliance, and perceived self-efficacy. This study aims to fill that gap by focusing on these specific outcomes. Occupational therapy addresses many facets of a person's life in a comprehensive manner. This study adds to our knowledge of how occupational therapy interventions might affect several areas of functioning in youth diagnosed with autism by looking at emotional regulation, therapeutic relationship, and perceived self-efficacy. There is sparse research on Therapeutic alliance It can be a predictor of how effective the therapy can be. The goals of occupational therapy is mainly to help individuals regain and maintain their abilities to do basic daily activities and become more independent still there is not much research on how occupational therapy affects the self-efficacy of people with ASD especially children.

Rationale

As a result of improvement in the healthcare sector and early detection of various neurodevelopmental conditions, there is a need to update the ways we manage and treat such disorders. Most studies focus on cognitive behavioural therapy and sensory integration therapy when it comes to dealing with children with autism. There needs to be more research on the use and application of Occupational Therapy in improving the lives of children with autism. There is a pattern of focusing on the same factors like anxiety, depression and happiness of such children. Practical applications of the therapy on the abilities of children should be taken into considerations like self-efficacy & emotional regulation.

METHODOLOGY

Aim: To analyse the effectiveness of Occupational Therapy in improving Emotional Regulation, Therapeutic Alliance and Perceived Self-Efficacy in children with autism using Pre and Post test method.

Objectives: Based on the gaps identified in the existing literature and the need for empirical evidence on the importance of sessions of occupational therapy based activities in children with autism, the research goals are :

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- To check the impact of occupational therapy on emotional regulation in kids with mild to moderate ASD.
- To investigate the influence of occupational therapy on the therapeutic alliance between the child and the therapist skills in children with autism.
- To assess the impact of occupational therapy on empercieved self-efficacy skills in children with autism.

Hypothesis

- There is a considerable improvement in the levels of emotional regulation after undergoing occupational therapy intervention.
- There is a great increase in the status of therapeutic alliance after undergoing occupational therapy intervention.
- There is a positive impact on perceived self-efficacy after undergoing occupational therapy intervention.

Study Design

A pre and post-analysis method was employed, wherein participants' emotional regulation skills, therapeutic alliance, and perceived self-efficacy will be assessed before and after receiving occupational therapy interventions.

Sample

A sample of 30 children diagnosed with medium levels of autism, aged between 4 and 13 years, who are receiving occupational therapy services.

Inclusion criteria:

- Children diagnosed with autism spectrum disorder mild to moderate severity
- Lie within the age range 4-13.

Exclusion criteria :

- Children with high severity of asd,
- Comorbidity withother neurodevelopmental disorders.

Sampling Procedure

The procedure adopted was Purposive & snowballing sampling. Individuals were selected if they fulfilled the criteria of having mild to moderate severity of autism and were in the age range of 4-13.

Selected individuals helped to contact other similar people with the same condition.

Area of Study

According to APA, In order to research, prevent, and cure psychologically based dysfunction or discomfort as well as to promote personal development and subjective well-being, clinical psychology applies theory, behavioral science, human science, and clinical knowledge.

The physical, cognitive, and social-emotional domains are the three main characteristics of change that this discipline studies. Numerous subjects fall within these three categories, such as physical capabilities, executive functioning, moral understanding, language acquisition,

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social development, emotional maturation, self-perception, and identity formation. (tau&Ramiro,2022 ; APA,2014; Burman E ,2017).

Variables-

THERAPEUTIC ALLIANCE-

The cooperative and trustworthy relationship between a client and a therapist is referred to as the therapeutic alliance. It is regarded as one of the most crucial elements of effective therapy outcomes in a variety of therapeutic techniques and methodologies. The therapeutic partnership is built on trust. It should be easy and secure for the client and the therapist to openly communicate ideas, feelings, and experiences. The establishment of a robust therapeutic alliance is contingent upon the counselor's capability to understand and sympathize with their client's experiences, feelings, and viewpoints. Empathy gives any customer a sense of being understood, affirmed, and supported. The level of comfort that the client feels around and with the therapist impacts the efficacy of the sessions.

EMOTIONAL REGULATION-

The capacity to successfully adjust our own emotions and act on them accordingly is called emotional regulation. It encompasses the abilities to identify, comprehend, and control feelings in a range of contexts. Because it enables people to manage obstacles in life, form relationships, and make wise decisions, emotional regulation is essential for mental health and wellbeing. The ability to manage and adjust one's emotions appropriately and in accordance with the situation is emotional regulation.

One of the most researched methods for regulating emotions is cognitive reappraisal, often known as cognitive change. (Buhle et.al ,2014). It includes a range of techniques, including positive reappraisal, which involves highlighting and generating a positive element of the stimuli. (moster et.al,2014) Taking a broader view to perceive "the bigger picture" and reinterpreting an event is known as decentering. (Schartau et.al,2009). Reevaluating a fictional occurrence by taking and highlighting an idea this isn't true, for example, "just a movie" or "just my imagination"(Makowski et.al, 2019)

A response-focused method of emotion management is expressive suppression. (Source:) The voluntary suppression of one's external emotional responses is the tactic employed here. A key concept in communication studies is expressive suppression, which is closely related to our emotional experiences. (Niedenthal et.al,2006).

PERCEIVED SELF EFFICACY

According to American Psychological Association, in psychology, self-efficacy is the belief in one's own ability to take the required steps to achieve specific goals. Personal well-being and human achievement are enhanced by a strong sense of self-efficacy. When someone has strong self-efficacy. People with low self-efficacy shy away from demanding tasks because they perceive them as personal hazards.

Test and Tools

The Child Session Rating Scale (CSRS) is a straightforward four-item measure used to evaluate the therapeutic partnership. (Duncan, et al. 2003). Children between the ages of 6 and 12 are intended to use the CSRS. Test retest reliability range from .54 to .70.

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Parents and other caregivers involved in the child's therapy can also provide input using the CSRS. Every item's line-by-line point selection determines the individual responses for the CSRS. From 0.0 to 10.0, the furthest left and right points on each line represent a scale from 0 to 10, inclusive of decimals. When a point is selected on the left, the score is lower; when a point is selected on the right, the score is greater. It is 36 for the CSRS cut-off.

EMOTION REGULATION QUESTIONNAIRE (ERQ)

Gross & John, 2003) It's intended to evaluate and quantify two methods of emotion regulation: the persistent propensity to control emotions through expressive suppression or cognitive reappraisal.

A 10 statement assessment intended to gauge subjects' propensity to control their emotions through two different mechanisms: expressive suppression and cognitive reappraisal. Every sentence on the 7-point Likert scale. This scale begins at 1 (strongly disagree) and ends at 7 (strongly agree), is answered by the respondents. The criterion validity is 0.17-0.41. cronbach's alpha is 0.73-0.82

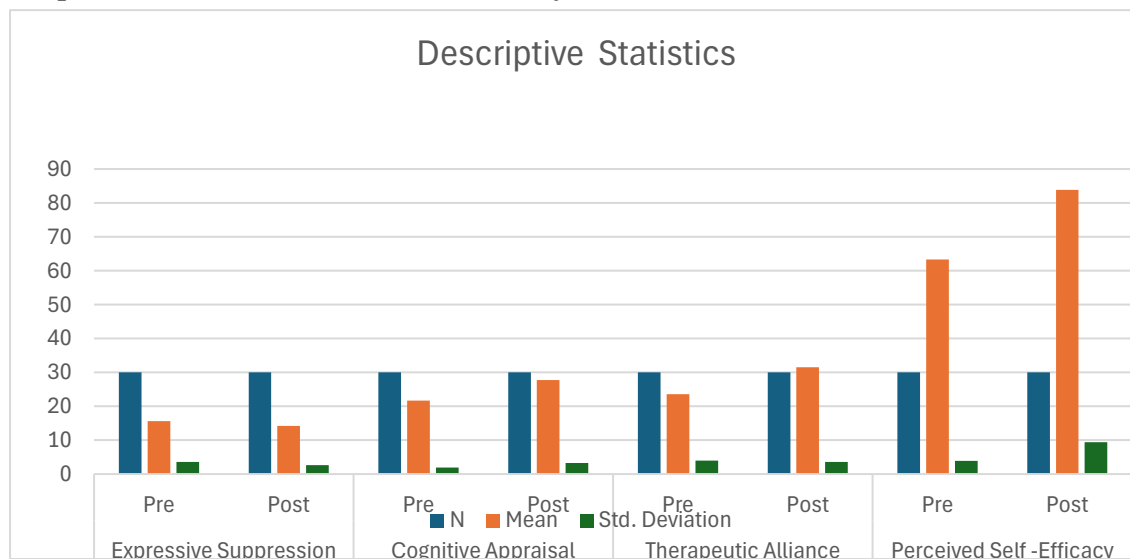
THE SELF EFFICACY QUESTIONNAIRE FOR CHILDREN SEQ-C assesses the level of self-efficacy in kids. Its intended use is the study of emotional disorders. The range of estimates for internal consistency (alpha) was 0.85 to 0.88. Five-point Likert-type scale. The measure is self-scored.

RESULT

Table 1.1 Mean and standard deviation of variables

Variables	Stage	N	Mean	Std. Deviation
Expressive Suppression	Pre	30	15.63	3.557
	Post	30	14.17	2.653
Cognitive Appraisal	Pre	30	21.70	1.896
	Post	30	27.77	3.266
Therapeutic Alliance	Pre	30	23.53	3.989
	Post	30	31.53	3.569
Perceived Self -Efficacy	Pre	30	63.27	3.868
	Post	30	83.83	9.363

Graph 1.1 mean and standard deviation of all variables



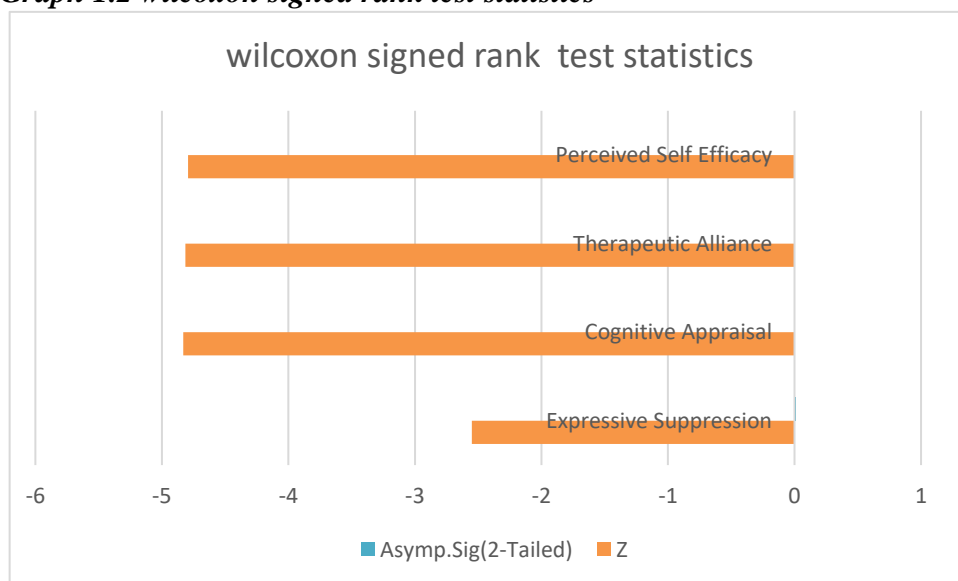
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Data in table 1.1 and graph 1.2 depicts the participants show a significant improvement in levels of emotional regulation, therapeutic alliance and perceived self-efficacy after undergoing intervention of occupational therapy, as can be seen by increased mean scores post intervention. Occupational treatment was found to reduce expressive suppression tendencies in children with autism, as seen by the mean score dropping from pre-intervention (M = 15.63) to post-intervention (M = 14.17). For the variable cognitive appraisal, The Mean for pre intervention is 21.70. The mean for post intervention is 27.77. Between pre and post cognitive appraisal ratings, there is a statistically significant difference ($p < .001$). Indicating that occupational treatment had a favourable impact on cognitive appraisal in autistic children, the mean score increased considerably from pre-intervention (M = 21.70) to post-intervention (M = 27.77). The pre- and post-therapeutic alliance scores differ statistically significantly ($p < .001$). Occupational therapy strengthened the therapeutic relationship between children with autism and their therapists, as evidenced by the significant rise in average result from before sessions (M = 23.53) to after sessions have been completed. (M = 31.53). The difference between the pre and post self-efficacy scores is statistically significant ($p < .001$). The mean score increased from 63.27% pre-intervention to 83.83 post-intervention, demonstrating a favorable impact of occupational therapy on improving children with autism's sense of self-efficacy. In case of expressive suppression, the pre- and post-expressive suppression scores differ statistically significantly ($p = .011$).

Table 1.2 Wilcoxon signed rank test statistics

Variables	Z	Asymp. Sig(2-Tailed)
Expressive Suppression	-2.551	0.011
Cognitive Appraisal	-4.831	0.000
Therapeutic Alliance	-4.815	0.000
Perceived Self Efficacy	-4.793	0.000

Graph 1.2 wilcoxon signed rank test statistics



Referring to table 1.2 and graph 1.2, after the OT sessions, there was a substantial drop ($Z = -2.551$, $p = 0.011$) in expressive suppression. This suggests that OT therapies could help these kids acquire more adaptive techniques for managing their emotions. After the session, there was a significant improvement in cognitive appraisal skills ($Z = -4.831$, $p = 0.000$).

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Youngsters showed enhanced capacity to assess and reinterpret circumstances, which may result in more constructive emotional reactions and coping techniques. Throughout the intervention, there was a significant strengthening of the therapeutic connection between the children and OT practitioners ($Z = -4.815, p = 0.000$). This shows that occupational therapy (OT) interventions promoted a cooperative and supportive therapeutic interaction, which is essential for positive treatment outcomes. After receiving occupational therapy sessions, there was a substantial rise in perceived self-efficacy ($Z = -4.793, p = 0.000$). The well-being of children was positively impacted by OT therapies, as seen by their increased confidence in their ability to participate in daily activities and navigate social relationships. The findings of the research demonstrate that participating in occupational activities under the therapists guidance can help children with ASD in several ways, including social interaction, emotional regulation, and perceived competence.

Table 1.3 Add Table Name

		N	Mean Rank	Sum Of Ranks
Expressive Suppression Post-Pre	Negative rank	17	20.88	355.00
	Positive rank	13	8.46	110.00
	Ties	0		
	Total	30		
Cognitive Appraisal Post-Pre	Negative rank	0	0.00	0.00
	Positive rank	30	15.50	465.00
	Ties	0		
	Total	30		
Therapeutic Alliance Post-Pre	Negative rank	0	0.00	0.00
	Positive rank	30	15.50	465.00
	Ties	0		
	Total	30		
Perceived Self Efficacy Post-Pre	Negative rank	0	0.00	0.00
	Positive rank	30	15.50	465.00
	Ties	0		
	Total	30		

The given data shows the mean rank and sum of ranks for the changes seen in expressive suppression, cognitive evaluation, therapeutic alliance, and perceived self-efficacy. Expression Suppression: Positive ranks show a rise in expressive suppression following OT, whereas negative ranks show a decrease in the same suppression. There is a more significant drop in expressive suppression when looking at negative ranks (20.88) as opposed to positive ranks (8.46). In addition to demonstrating the large decline in expressive suppression, the total of ranks for negative ranks (355.00) is higher than for positive ranks (110.00). Perceived Self-Efficacy, Cognitive Appraisal, and Therapeutic Alliance: All of these categories showed gains after OT, with only positive rankings. In each of the three scenarios, the mean rank for positive rankings is 15.50, indicating comparable degrees of development in cognitive evaluation, therapeutic alliance, and perceived self-efficacy. Each variable's sum of ranks for positive ranks is 465.00, suggesting a continuous improvement in all of these areas.

It is clear from interpreting these findings in combination with the earlier Z-scores and analysis that OT therapies have significantly improved the cognitive evaluation, therapeutic

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alliance, and perceived self-efficacy of children with ASD. Additionally, expressive suppression significantly decreased, demonstrating improvement in the ability to control emotions.

DISCUSSION

With the goal of addressing the different obstacles that people especially young children with autism face on a daily basis, occupational therapy has become recognized as an effective intervention for these children. This study looks into how well occupational therapy interventions work for children with autism in terms of emotional regulation, therapeutic alliance, and perceived self-efficacy. The theories suggest that after the intervention, these areas will significantly improve.

The selected sample of 30 children diagnosed with mild to moderate level of autism underwent 25-30 sessions of occupational therapy over a span of two months.

The results aligned with the hypothesis proposed. Receiving occupational therapy proved useful in improving the levels of emotional regulation, therapeutic alliance and perceived self-efficacy. The present research is in accordance with past researches done on this topic. Occupational therapy's effectiveness is proven in improving social and emotional skills.

Hypothesis 1: There is a considerable improvement in the levels of emotional regulation after undergoing occupational therapy intervention.

The results show a post-intervention considerable decline in expressive suppression ratings. Children with autism appear to have improved emotional management skills. Children were able to communicate their emotions more successfully thanks to occupational therapy, which also helped them develop coping strategies, sensory control abilities, and social-emotional learning. Improved social relationships and general well-being are enhanced by the intervention, which lessens expressive repression tendencies and promotes healthy emotional expression and communication. Significant increase in cognitive appraisal abilities was observed. Children were able to improve their ability to change their perspectives and assess situations in a positive light. This is in alignment with conclusions from past researches like one conducted by Kaur et.al in 2019 which stated that play based OT improves social and communication skills.

Therefore, hypothesis 1 is proven true as there is a significant improvement in the level of emotional regulation.

Hypothesis 2: There is a significant increase in the status of therapeutic alliance after undergoing occupational therapy intervention.

Findings show that following occupational therapy intervention, scores for therapeutic alliances significantly increased. This illustrates the need for therapists and autistic youngsters to work together more closely. It's possible that occupational therapists used client-centered techniques, customized interventions, and efficient communication techniques to involve kids and foster trust. Through encouraging active engagement, adherence to therapy goals, and mutual respect, a positive therapeutic partnership improves treatment outcomes. Long-term growth and more successful intervention delivery are the results of the supportive environment it fosters, where kids feel empowered to explore and confront their problems.

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Hence, hypothesis 2 proven true. occupational therapy as an intervention improves therapeutic alliance.

Hypothesis 3: There is a positive impact on perceived self-efficacy after undergoing occupational therapy intervention.

After receiving occupational therapy intervention, there are notable gains in perceived self-efficacy ratings. This shows that children with autism have higher levels of self-assurance, self-belief in their talents, and skill mastery. Occupational therapy therapies probably aimed to help kids become more independent, acquire new skills, and attain their objectives by providing them with the resources they require to overcome obstacles and succeed in a variety of activities. Enhanced self-efficacy cultivates resilience, drive, and adaptive functioning, empowering kids to overcome obstacles and pursue their passions with more independence and tenacity. Grajo et.al also came to a similar conclusion in his paper published in 2020 that O.T improves participation in daily activities like yoga, handwriting etc.

As depicted by the results hypothesis 3 is also proven right since there is a considerable improvement in the level of perceived self-efficacy in children with autism after receiving occupational therapy.

The results of the study highlight the many advantages of occupational therapy interventions for kids with autism. Occupational therapists address critical psychosocial variables that have a great impact on the life and overall well-being of children with autism and their relatives and friends by focusing on emotional control, self-efficacy, and therapeutic alliance. These treatments support social integration, functional independence, and holistic development; they are consistent with person-centered care and strengths-based methodologies.

Based on these findings, it appears that children with autism benefit from occupational therapy in terms of cognitive appraisal, expressive suppression, therapeutic alliance, and self-efficacy.

The noteworthy enhancements noticed in emotional control, therapeutic alliance, and perceived self-efficacy underscore the effectiveness of occupational therapy interventions in catering to the varied requirements of children diagnosed with autism. But it's critical to recognize the intricacy of ASD and the variation in each patient's reaction to treatment.

CONCLUSION

To sum up, this study's results demonstrate the substantial benefits that occupational therapy (OT) interventions have for autistic kids in terms of their ability to balance their feelings, connect with others, and feel competent. After receiving OT sessions, children with ASD showed significant improvements in expressive suppression, cognitive evaluation, therapeutic alliance, and perceived self-efficacy, as determined by statistical analysis using a pre-post test design.

In particular, it was discovered that occupational therapy (OT) interventions improved children's self-confidence in their capacity to carry out everyday tasks, assisted in the

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development of adaptive emotion regulation strategies, and strengthened the therapeutic alliance between children and OT practitioners.

Recommendations

- Conduct more longitudinal research- To evaluate the long-term efficacy of occupational therapy (OT) therapies for children diagnosed with ASD. Understanding the durability of the noted advancements over time would be possible as a result.
- Increased Diversity in the Sample: Take into account variables including age, symptom severity, and co-occurring disorders when selecting a more varied group of kids with ASD. By doing this, the results would be more broadly applicable and a more thorough picture of how beneficial OT is for various populations would be created.
- Combination therapy approaches aim to enhance treatment outcomes for children with ASD by examining the possible advantages of combining occupational therapy (OT) with other therapeutic methods, such as behavioral therapy or speech therapy.
- Family Involvement- Examine the function of family involvement in occupational therapy interventions and evaluate how it affects treatment efficacy and compliance. Parental or caregiver participation in therapy and the provision of resources to help their child's development may be advantageous.
- Qualitative Analysis: To acquire an in-depth understanding of the subjective experiences of children with ASD receiving OT therapies and their perceptions of improvement, complement quantitative data with qualitative analysis, such as observations or interviews.

Limitations in the study

- Small sample size- The research had a limited sample size of 30 children, which might have restricted the applicability of the results to a broader group of kids with ASD.
- Intervention period- The length of the OT intervention period may differ for each participant, which may have an impact on the size of the changes that are seen and complicate the process of figuring out how long therapy should last.
- Absence of Control group: It is challenging to determine whether the observed benefits are exclusively due to OT therapies or other outside influences in the absence of a control group.
- Measures of Self-Report: Relying on self-reporting, several of the outcome measures—like perceived self-efficacy—may be biased or inaccurate, particularly when it comes to children who struggle with communication.

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Conflict of Interest

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