Visualization Instructions Through Game Therapy in Regressive **Autistic**

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ABSTRACT

Autistic has different characteristics in children both how to understand instruction, social interaction and level of compliance. The different needs of autistic children result in different types of therapy for autistic children. The aim of this research was to determine the level of compliance with autistic children through visualization of instructions on a tug game. This research use action research method. The stages of the research were carried out through developing visual illustrations of games sequences. The next step is to apply visualization of instruction to autistic children with structured observation. The process of games therapy is done routinely to see the dynamics of the response of autistic children. Compliance that is forms through play therapy is the basis for the development of new actions. Regressive autistic children have limitations in communication, but the visual, physical audio and routine aspect. Visual illustration have an impact on behavioral change in autistic children with regressive type. The results showed that the regressive type of autism was able to apply disciplinary rules trough game therapy. Play games therapy shown the ability to carry out instuctions, walk straight, play with consistency, and movement speed.

CCS CONCEPTS

• Social humanity for difable student • Play Therapy • Autistic Regresif Disorder

KEYWORDS

compliance, autistic, therapy

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https://doio0rs/d/10.145/5/2345678990

ACM Reference format:

Purbasari Imaniar, Purwanigrum Jayanti Putri and Rusdianto Hutomo. 2020. Visualization Instruction Through Game Therapy in Regressive Autistic. In Proceedings of ACMWoodstock (WOODSTOCK'18). ACM, New York, NY, USA, 2 pages. https://doi.org/10.1145/1234567890

1. Introduction

in Indonesia Education adapts different characteristics, student characteristics, and learning outcomes. The concept of autistic child education is emphasized on the ability of psicomotor competence and self-development. Did not rule out the possibility of children with autism with the ability to think has the opportunity to develop themselves[1]-[3]. Analysis of the early needs of children with autism with communication disorders, social interactions, behavior, sensoric disorders, play patterns and emotions. The initial effort to suppress autistic children disorders is to pass changes to the behavior patterns of autistic children[4]–[6].

One effort to change can be done through visualized game therapy. Disruption of social interaction results in an individualist willingness to play. Individualist type of play as an initial stage to develop a pleasant playing rhythm. Individual play is needed to form the child's compliance behavior when playing. Afterwards the child is able to control individual games and can be released in the game of socialization[1], [4], [7]-[9]. Autistic children must be subjected to hourly activities so that autistic children do not experience individual perception. Playing as a fun thing is one of the needs of children with autism.

Autism is only behavior disorder that requires measures to control children's behavior. An individual approach can be a type of child's play approach to treating behavioral disorders of autistic children [10]–[14]. The game pattern of an autistic child must pay attention to the game equipment, touch sensitivity, comfort of sound objects, limitations of game communication. Bring up children's creations and imagination. Sensitivity to the surrounding environment. Individual approach shows subject interaction and environmental interaction [11], [15], [16].

The participation of children with autism when playing will be observed for the duration of the game. Autistic children respond with repetition levels and sequence of games to practice sensitivity to instructions or compliance behavior. Autistic children tend to

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imitate visuals so that the implementation of games requires visual learning scenarios.

This study aims to address the problem of implementing the therapy of autistic children games through tug games, identifying compliance behaviors of autistic children through therapy of child tug games.

2. Method

This study applies action to test and find the right action to be applied in the formation of autistic child compliance. This study involved participants to establish adherence to children with autism which is applied through routine therapy [5], [14], [17]. This research includes stages (1) exploring the playing environment of autistic children, (2) implementing therapeutic measures of autistic children to establish adherence, (3) reflection on therapy in the form of repetition and maintenance of adherence behavior of children.

This action research was carried out on regressive type 5-year-old children with autism who have low motor skills. Assessment of the play environment is used to identify the types of games that can be applied, the initial response and the actions needed to determine the comfort of children's play.

Tug children toys made by sponge material that are supported by driving wheels. The pull lever is at the top to move the toy body. Autistic children must to move the tug games corresponding the instruction. Therapys must observe the obedience how about they move, how about the solving problem, how about idependently finish the games.

The implementation phase is carried out if the child is comfortable and able to do the treatment in accordance with the goal of establishing compliance with autistic children. The reinforcement phase is carried out reflection and repetition as a form of maintaining compliance behavior for autistic children.



Figure 1. Tradisional Tug Game

This single action research involves two variables, namely the traditional game therapy of attraction and compliance with autistic children.

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Figure 2. Single Action Research

This study uses a therapeutic approach to toy game for children to practice rhythmic obedience to autistic children's games. Play therapy is intended to identify behavior, see the child's expression, social interaction abilities and discipline of autistic children. The steps in the treatment of tug game therapy for children with autism are as follows:

- a. Children's ability to adapt to the playing environment by introducing play tools, rules of play, and game achievements. The communication of autistic children can be demonstrated through body language responses, expressions, emotions and behaviors that are demonstrated during the process of playing adaptation.
- b. Implementation of games where actions against children with autism are aimed at achieving compliance. Repetition with a constant playing rhythm will produce positive or negative behavior. Boredom will produce emotional outbursts, loss of control, many mistakes made and even the decline of disciplinary behavior. Efforts to overcome this can be done by giving teatmen regularly and with an internal approach.
- c. Reflections on the game of child dance tug to find out the lack of action and achievement of the goals of the game. Strengthening compliance behavior can be done through repetition and reward up

3. Result and Discussion

This study discusses the problem of compliance with autistic children through tug game therapy, with actions to obtain data in the form of: (1) implementation of the therapy game for children with autism, (2) changes in compliance behavior through tug game therapy.

Traditional children's games train motoric, social, communication, empathy. Play will develop children's ability to solve simple problems physically and psychologically. Play contains elements of entertainment related to the improvement of children's development [10], [18], [19]. Simple development is a determinant of the maturity of the child's organ function. Educational and traditional types of games meet the needs of children in developing physical, social, psychological, and linguistic abilities. Traditional game tools train children to interact with natural objects and artificial natural objects. The rules of the game train mental preparation, pedagogy, problem solving, and environmental sensitivity[20]–[22].g

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Figure 3. Traditional Game Therapy

This research uses children's toys. Child toys are intended to be a toy for artificial animals and means of transportation. The game of tug is played by tuging the lever which is connected with a rope and a wheel to move a mock object. The working system of this toy depends on the child's ability to move objects. Speed, flexibility and maneuverability of movement. This game helps focus autistic child compliance. The element of dexterity playing the game moves straight, turns, and reaches the finish will provoke the ability of children with autism. Children's toys made from sponges, ropes and cogs. The design of the toy is lightweight, ergonomic, and striking colors making it easy for children to play.

The needs of children with autism with sensitivity, attention disorders. And imitation affects the response to receiving play instructions. The needs of children with autism are individual approaches and repeated interventions help children produce functional play behavior. Thus, children with autism who are accustomed to routine behavior get the main function of adherence to the game and some accompanying functions[16], [23], [24]. The function of the accompaniment of children's games is (1) introducing traditional children's toys to autistic children, (2) stimulant cultural and social norms, (3) introduction of the natural environment, (4) sensory sensitivity and sensory response, (5) introduction of science and technology concepts, (6) and training the growth and development of autistic children [25], [26].

Introduction of children's play environment and introduction to game activities. Recognition is done through object recognition, how to play, game routes and game instructions. Child's tug game through therapy is done for 30 minutes routinely. Autistic children carry out instructions with an individual approach. Autistic children with emotional sensitivity result in a fluttering response during the play process. Children tend to not focus, instructions must be strict, not sensitive to the surrounding environment and immature motoric. This obstacle is a concern to emphasize obedience instructions so that the game is meaningful according to its function.

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Table 1. Implementation of Play Therapy

Implementation	Behavior	Percentage Outcome
Introduction to the game	Eye contact in less than 5 seconds	15%
Roam the environment	Hysteria and observation	55%
Introduction response	Interest in the game	35%
Courage to play	Try independently	40%
Risk taking	Holding, tuging, moving with instructions in oneself	45%
Emotion in the game	Lack of focus and act carelessly	20%
Error instruction	Duration hasn't been long	60%
Obstacle control	Not yet independent	40%
Setback response	Consistency	5%
Solving difficulties	Need help	15%
Self esteem	Clap your hands without understanding the meaning	35%
The dynamics of change	Emotional fluctuations	30%
Strengthening	Play consistency	45%
Maintenance	Social interaction therapy	70%
Independence	Instructions without intervention	80%

The action of children's toy therapy for autistic children shows an increase in children's motoric activity. Scoping environment received a positive response. Details of objects by autistic children are well observed. The function of the object has not been detected, but after imitation, an autistic child is able to play with and without help. Management of games with grooves has not yet been fully responded to. The exploration process is carried out during 9 meetings.

Implementation of the game of child dance begins at the 10th meeting. At this stage, autistic children experience progress and

setbacks. Progress follows the game with a pattern of routines and a pleasant individual approach. Setbacks occur when an autistic child experiences a diversion of concentration from the surrounding environment [27], [28]. Elements of compliance that are formed are independence, discipline of play, responsibility for the completion of the game, and the ability to control the emotions of children with autism.

Reflections on this activity resulted in the conclusion that autistic children have an interest in artificial toys. Patterns of child obedience are formed due to the pleasure that becomes a game routine.

Obedience instruction means obedience, willingness, obedience, discipline. Compliance with autistic children can be seen from the level of behavior of taking a game, carrying out the commandments, for example sitting, standing, looking, walking, straight, turning and others. Compliance with autistic children also means being able to follow the clinical recommendations of the therapy being carried out. Behavior also depends on the clinical situation, nature and therapy carried out by autistic children.

Disorders of autistic children play patterns that are not playing with socialization, do not play with peers, do not play according to the function of toys, like objects in detail, very closely with objects that are liked.

Compliance is one of the problems of autistic children. The impact on compliance will affect the ability of children to understand new activities and be able to receive instructions in accordance with the function of the activity [29], [30]. The ability of imitation in structured activities in the social environment results in attention disturbances, disruption of social initiation and delays in academic abilities of autistic children.

Compliance with autistic children can be honed through game interactions. Autism of autistic children in game therapy is demonstrated by the ability to imitate, expressive language, and the ability to develop themselves. Compliance with autistic children is shown by responding to what is instructed. Autistic children are obedient supported by physical conditions, emotions, health, response to instructions, environmental support, education, therapeutic interventions and facilities.

Physical conditions affect compliance where the sensory response of children with autism plays a major role in the ability to respond to stimuli. The development and growth of children with autism in attitude will determine the maturity of the response of autistic children. Autonomy of children with autism can be conquered with commands that practice physical activity, but when there is rejection, the behavior of autistic children will be difficult to control. Health also affects the compliance of children with autism. Understanding of instruction without heavy intervention, forming a close relationship between therapy and children.

The process of interaction with a positive environment will help autistic children to respond through good behavior and commands. Recognition of success influences trust in acting in children with autism. Education influences the formation of adherence because it directs the understanding of the instructions given by the therapist to the child. Peer environment will affect the child's behavior towards the similarity of response to instructions or imitation of behavior[31]–[33]. Strengthening and rewarding for success affects the motivation and confidence of autistic children. Game facilities that suit the needs of children with autism affect the response of pleasure, willingness, and interest to play.

The effect of children's adherence responses in this study has been formed in the learning environment. Action therapy games are applied to pay attention to the child's emotional condition, children's interest, understanding and health abilities, and play facilities available. The therapist's activity goes with the concept of learning while playing with the level of adjustment of the child's response. The success of child compliance is seen in the behavior of obeying, and disciplining in the game.



Figure 4. Outcome obewing behavior

Compliance behavior that has been formed can support the success of the meaning of daily activities. Positive behavior, supported by good interventions, and strengthening the maintenance of childbirth helps the achievement of compliance behavior.

4. Conclusion

This research uses the action therapy of a child tuging game in patients with autistic regressive types. The application of the game is done in three stages, namely the exploration of the playing environment, the implementation of the game, and the reflection of the game. The step of the child's step is to recognize objects and design a game with difficulty in motoric motion of the child. The implementation phase of the child playing the game the duration of the game affects the compliance function. Reflexive autistic children need a communal playing environment so that motivation grows in the rhythm and joy of the game.

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ACKNOWLEDGMENTS

Our gratitude goes to the Karanganyar Welahan Jepara community, Muria Kudus University, Ristek-BRIN, an autistic children's foundation in Kudus, Central Java Indonesia, which has provided researchers the opportunity to obtain data on compliance with autistic children through traditional children's games.

REFERENCES

- [1] A. Nazeer and J. L. Calles, "Autistic spectrum disorders," in *Clinical Aspects of Psychopharmacology in Childhood and Adolescence*, 2011.
- [2] School-Based Play Therapy. 2010.
- [3] M. Sigman, J. Ungerer, and T. Sherman, "DEFINING THE SOCIAL DEFICITS OF AUTISM: THE CONTRIBUTION OF NON-VERBAL COMMUNICATION MEASURES," J. Child Psychol. Psychiatry, 1986, doi: 10.1111/j.1469-7610.1986.tb00190.x.
- [4] E. B. Barbeau, A. Mendrek, and L. Mottron, "Are autistic traits autistic?," *British Journal of Psychology*. 2009, doi: 10.1348/000712608X337788.
- [5] J. Osterling and G. Dawson, "Early recognition of children with autism: A study of first birthday home videotapes," *J. Autism Dev. Disord.*, 1994, doi: 10.1007/BF02172225.
- [6] S. Bejerot and E. Mörtberg, "Do autistic traits play a role in the bullying of obsessive-compulsive disorder and social phobia sufferers?," *Psychopathology*, 2009, doi: 10.1159/000207459.
- [7] P. Scanlon, "Superheroes are super friends: Developing social skills and emotional reciprocity with autism spectrum clients.," *Using superheroes Couns. Play Ther.*, 2007.
- [8] M. S. Islam, F. Kanak, M. A. Iqbal, K. F. Islam, A. Al Mamun, and M. S. Uddin, "Analyzing the status of the autism spectrum disorder amid children with intellectual disabilities in Bangladesh," *Biomed. Pharmacol. J.*, 2018, doi: 10.13005/bpj/1422.
- [9] D. L. Ross, W. M. Klykylo, and R. Hitzemann, "Reduction of elevated CSF beta-endorphin by fenfluramine in infantile autism," *Pediatr. Neurol.*, 1987, doi: 10.1016/0887-8994(87)90032-4.
- [10] L. Wing, "The autistic spectrum," Lancet. 1997, doi: 10.1016/S0140-6736(97)09218-0.
- [11] S. Sandin, P. Lichtenstein, R. Kuja-Halkola, H. Larsson, C. M. Hultman, and A. Reichenberg, "The familial risk of autism," *JAMA - J. Am. Med. Assoc.*, 2014, doi: 10.1001/jama.2014.4144.
- [12] F. G. E. Happé, "Communicative competence and theory of mind in autism: A test of relevance theory," *Cognition*, 1993, doi: 10.1016/0010-0277(93)90026-R.
- [13] L. Kanner, "Autistic disturbances of affective contact.," *Acta Paedopsychiatr.*, 1968.
- [14] S. B. Wulff, "The symbolic and object play of children with autism: A review," *Journal of Autism and Developmental Disorders*. 1985, doi: 10.1007/BF01531600.
- [15] S. Baron-Cohen, A. M. Leslie, and U. Frith, "Mechanical, behavioural and Intentional understanding of picture stories in autistic children," Br. J. Dev. Psychol., 1986, doi: 10.1111/j.2044-835x.1986.tb01003.x.
- [16] A. R. H. Howard, R. Copeland, S. Lindaman, and D. R. Cross, "Theraplay Impact on Parents and Children with Autism Spectrum Disorder: Improvements in Affect, Joint Attention, and Social Cooperation," Int. J. Play Ther., 2018, doi: 10.1037/pla0000056.

The 4th ICLIQE 2020, September 5, 2020, Surakarta, Indonesia

- [17] C. E. Robertson, E. M. Ratai, and N. Kanwisher, "Reduced GABAergic Action in the Autistic Brain," Curr. Biol., 2016, doi: 10.1016/j.cub.2015.11.019.
- [18] I. Hacking, "Autistic autobiography," Philos. Trans. R. Soc. B Biol. Sci., 2009, doi: 10.1098/rstb.2008.0329.
- [19] S. Baron-Cohen, "The Autistic Child's Theory of Mind: a Case of Specific Developmental Delay," J. Child Psychol. Psychiatry, 1989, doi: 10.1111/j.1469-7610.1989.tb00241.x.
- [20] B. Robson, "Autism spectrum disorder: A review of the current understanding of pathophysiology and complementary therapies in children," Aust. J. Herb. Med., 2013.
- [21] H. Sowden, M. Perkins, and J. Clegg, "Context and communication strategies in naturalistic behavioural intervention: A framework for understanding how practitioners facilitate communication in children with ASD," Child Lang. Teach. Ther., 2011, doi: 10.1177/0265659010369990.
- [22] T. Hashimoto et al., "Development of the brainstem and cerebellum in autistic patients," J. Autism Dev. Disord., 1995, doi: 10.1007/BF02178163.
- [23] R. Bromfield, "Psychodynamic play therapy with a high-functioning autistic child," *Psychoanal. Psychol.*, vol. 6, no. 4, pp. 439–453, 1989, doi: 10.1037/0736-9735.6.4.439.
- [24] L. Desha, J. Ziviani, and S. Rodger, "Play preferences and behavior of preschool children with autistic spectrum disorder in the clinical environment," *Phys. Occup. Ther. Pediatr.*, 2003, doi: 10.1300/J006v23n01_03.
- [25] F. D. M. Fernandes, C. Albuquerque De La Higuera Amato, and D. R. Molini-Avejonas, "Language therapy results with children of the autism spectrum," Rev. Logop. Foniatr. y Audiol., 2012, doi: 10.1016/j.rlfa.2011.12.001.
- [26] K. D. Pruett, "Children at Play: Clinical and Developmental Approaches to Meaning and Representation," J. Am. Acad. Child Adolesc. Psychiatry, 1995, doi: 10.1097/00004583-199509000-00027.
- [27] L. Dezfoolian, M. Zarei, H. Ashayeri, and M. Y. Looyeh, "A Pilot Study on the Effects of Orff-Based Therapeutic Music in Children With Autism Spectrum Disorder," *Music Med.*, 2013, doi: 10.1177/1943862113491502.
- [28] National Autistic Society, "Autism Facts and History," NAS, 2019. .
- [29] M. Elsabbagh et al., "Global Prevalence of Autism and Other Pervasive Developmental Disorders," Autism Res., 2012, doi: 10.1002/aur.239.
- [30] N. Skaines, S. Rodger, and A. Bundy, "Playfulness in children with austistic disorder and their typically developing peers," *Br. J. Occup. Ther.*, 2006, doi: 10.1177/030802260606901104.
- [31] M. E. Stewart and M. Ota, "Lexical effects on speech perception in individuals with 'autistic' traits," *Cognition*, vol. 109, no. 1, pp. 157–162, 2008, doi: 10.1016/j.cognition.2008.07.010.
- [32] L. Ketcheson, J. Hauck, and D. Ulrich, "The effects of an early motor skill intervention on motor skills, levels of physical activity, and socialization in young children with autism spectrum disorder: A pilot study," *Autism*, vol. 21, no. 4, pp. 481–492, 2017, doi: 10.1177/1362361316650611.
- [33] O. Golan, S. Baron-Cohen, J. J. Hill, and M. D. Rutherford, "The 'Reading the Mind in the Voice' test-revised: A study of complex emotion recognition in adults with and without autism spectrum conditions," J. Autism Dev. Disord., vol. 37, no. 6, pp. 1096–1106, 2007, doi: 10.1007/s10803-006-0252-5.