Economic tokens to improve compliance behavior in children with intellectual disabilities

PROCEDIA
Studi Kasus dan Intervensi Psikologi
p-ISSN 2302-1462; e-ISSN 2722-7669
ejournal.umm.ac.id/index.php/procedia
2025, Vol 13(2):159–167
DOI:10.22219/procedia.v13i2.37139

Kinanti Anggia Nauli Hutabarat[1*]

Abstract

Intellectual Disability (ID) is a neurodevelopmental condition characterized by significant limitations in both adaptive behavior and intellectual functioning, which originate before age 22. It affects children's ability to understand, learn, and apply information, as well as their ability to navigate social situations and perform daily activities. The goal of this research is to prove the effectiveness of token economy techniques in increasing compliant behavior among children with intellectual disabilities. The subject, a 13-year-old female with severe intellectual disability, underwent a structured behavioral intervention using a token economy approach. This approach incentivizes desired behaviors through immediate reinforcement. Assessment data were collected through observations, interviews, and Standard Progressive Matrices (SPM). Results demonstrate a notable improvement in compliance, supporting the efficacy of token economy techniques as a viable behavioral modification method in educational settings for children with intellectual disabilities.

Keywords

behavioral intervention, compliance, intellectual disability, reinforcement, token economy

Introduction

Children with intellectual disability (ID) have cognitive or functional intellectuals who are in the category of below average. Based on the DSM-V-Tr, children with intellectual disability have three symptoms, namely (a) deficit function intellectual, (b) deficit function adaptation, (c) obstruction function intellectual and adaptation during the development period—children with disability intellectual risk of experiencing problem behavior, including noncompliance. The study by Alarifi et al. (2024) shows that 78.8% of preschool children with disability intellectuals in Saudi Arabia show behavior challenges, such as aggression and behavior damage.

In general biological, ID can caused by a genetic abnormality, disorders in biochemistry, or a condition medical moment born like asphyxia, namely an emergency where the baby is not directly crying and lacks oxygen, which can damage nerves and the brain and inhibit the development of cognitive as well as motor (Safitri et al., 2021). One of the consequences is The lack of oxygen during the labor process, which is the damaged nerves in the brain of the baby and gives birth to obstacles in the development process—one of them that is mental retardation and intellectual disability (Wahyuni & Rohani, 2017). In the case of this, the subject experiences asphyxia moment birth that possibly impacts delays in prone, crawling, standing, walking, and talking. One of the consequences of deficiencies From a psychological perspective, individual vulnerability to stress and emotional regulation disorders also worsen developmental conditions.

Meanwhile, social factors such as parenting patterns and living environment also play a role in children's cognitive and adaptive development. McKinney et al. (2024) found that up to 80% of the variation in IQ in individuals with syndromic intellectual disabilities can be attributed to socio-environmental factors, including economic stability and family support. The interaction of these three factors contributes to the emergence of ID and affects children's behavior and learning abilities in the long term.

Intellectual disability (ID) not only affects the individual who experiences it but also has a significant impact on their family and the surrounding environment. Individuals with ID often face barriers in cognitive, social, and adaptive functioning, which causes high dependence on others in carrying out daily activities and increases the risk of psychological disorders such as anxiety and depression (Süngü et al., 2023). For families, especially parents, caring for children with ID can cause emotional distress, economic burden, and chronic stress due to the demands of long-term care and lack of social support (Singh et al., 2023). On the environmental side, individuals with ID may face social stigma, discrimination, and lack of access to adequate educational services and interventions, which ultimately hinder social inclusion and active participation in the community (Boland et al., 2024).

Children with disability intellectual have a risk of experiencing problem behavior (Eisenhower et al., 2005). Noncompliance is one of the problems most common behaviors in individuals with intellectual disability (Arbelle

[1]Fakultas Psikologi, Universitas Muhammadiyah Malang, Indonesia.

***Correspondent Author:**
Kinanti Anggia Nauli Hutabarat, Universitas Muhammadiyah Malang, Jl. Raya Tlogomas No.246, Kota Malang, Indonesia 65144
Email: kinananggi0412@gmail.com

et al., 1994). Compliance can defined as the child's ability to adapt behavior based on the order or desire of a caregiver or caregiver (Liu & Edwards, 2018). Behavior No obedient (noncompliance) is behavior that is on purpose shown by the child, either in a way actively or passively, for No does appropriate action with the request of a parent or even a figure of authority over others (Kalb & Loeber, 2003).

Behavior No obedience is seen when children often say " no " to various requests or Instructions from parents or figures of authority over others (Milonas et al., 2017). Parents or teachers sometimes have to face the child's anger, such as sulking, shouting, hitting, and kicking as from the child's rejection of the request of the parents who are given the child. It makes Parents often label children as children who are not obedient (Maesaroh & Fauziah, 2019).

Sarwono & Meinarno (2011) divide compliance into three forms of behavior, namely: a) Conformity (conformity), namely individual change attitude and behavior to be appropriate with method do appropriate and acceptable action with demands social, in matter This subject No show change attitude and behavior in demand For adapt self with demands social, where subject used to call the teacher with a voice hard, repeatedly ask, shouting, and disturbing friends, b) Acceptance (compliance). Namely, individuals do something on acknowledged requests of others in authority, where the subject No shows reception to the request of teachers who have authority. When asked To calm down, the subject had No compliance request. c) Obedience (obedience), namely, individual behavior on other people's orders.

From the description, it can be concluded that child obedience is a form of fulfillment action or a child's willingness to do an appropriate action with the hopes and wishes of others That will help parents, teachers, and the theme. Where is the indicator compliance consists of three that is conformity (conformity), reception (compliance), and obedience (obedience) (Ginting, 2018).

Some effective interventions to improve compliance in children with ID include Functional Communication Training (FCT), helping children replace noncompliant behavior with appropriate communication (Kurtz et al., 2011). Then, Visual schedules can improve children's understanding of activities and independence (Hammond et al., 2025). Then, the token economy provides positive reinforcement that encourages consistent, compliant behavior (Nastasi et al., 2020).

The token economy technique is an effective method of changing behavior by providing rewards for desired behavior if the subject can do it (Sunarsih et al., 2021). The token economy has been proven effective in increasing obedient behavior in children with intellectual disabilities (Wilson & Collins, 2019). The token economy also significantly improves obedient behavior and academic achievement in students with intellectual disabilities in Special Education settings (Kart & Kart, 2021). The use of the token economy is effective in increasing the regularity and compliance of children with intellectual disabilities in the severe category (Irvan & Jauhari, 2020). The token economy technique is effective in increasing student compliance and discipline, including those with intellectual disabilities (Sidiq et al., 2020).

Token economy is an effective intervention to be given to children with ID compared to other interventions such as CBT, social reinforcement without tokens, and other interventions (Jacob et al., 2022). Its effectiveness caused by the token economy can provide concrete and immediate reinforcement and facilitate the association of behavior and consequences. In addition, token economy is also easier to implement in the low to medium cognitive range, making this intervention more effective than other interventions (DeJager et al., 2020).

Methods

Assessment

Assessments used are as follows: Interviews, observations, and psychological tests. In-depth interviews were done with the father and subject teacher to dig deeper into daily behavior patterns and challenges faced by subjects at school or home. The observation was conducted directly in class with a focus on the subject's behavior when receiving instructions from the teacher, as well as the response to a situation where his wishes were not followed. The Test psychology used is Purposeful Standard Progressive Matrices (SPM). To measure the ability of cognitive and potential intelligence subjects.

Case Presentation

The subject, a girl 13 years old with the initials QLP, was diagnosed with a disturbance disability with behavior that shows low-level compliance, both at school and at home. Based on the statement of the teacher and father, a subject often shows behavior that disrupts the teaching and learning process in the classroom. The class teacher reported that the subject often calls his teacher with his voice and even invites his friends to play during class hours, resulting in the atmosphere of class becoming No conducive. When asked To remain calm and pay attention, the subject tends To comply with commands and even show explosion emotions, such as anger or a tantrum, if reprimanded. Behavior No obedient or noncompliance is behavior that is on purpose shown by the child, either in a way actively or passively, for no appropriate action with the request of a parent or even a figure of authority over others (Kalb & Loeber, 2003; Sarwono & Meinarno, 2011)

At home, the subject often has strong desires and demands. It should be noted that if his wishes are not fulfilled, he tends to react strongly by shouting or throwing tantrums, which can cause difficulties for those around him. To maintain calmness at home without disturbing order, the family must manage this carefully.

According to the father's account, the subject has shown significant developmental progress since an early age, particularly in basic skills such as speaking, walking, and daily self-care activities like bathing, defecating, and eating. However, the father also reported that the subject experienced developmental delays, which are likely related to complications during birth. The subject suffered asphyxia at birth, did not cry immediately, and required medical stimulation and additional assistance to initiate crying.

One of the consequences of this lack of oxygen during labor was damage to the baby's brain nerves, which has impacted the child's development. This has led to conditions such as mental retardation and intellectual disability (Wahyuni & Rohani, 2017). As a result, the subject has experienced delays

in several areas, including gross motor skills, communication, and adaptive behavior.

At school, the observation of the results shows that the subject has difficulty in comply Instructions, often does not wait their turn, and often demands attention in a way repetitive from his teacher by asking the same question or touching the teacher until he gets a response. In class, the subject is also difficult to sit still, and if ignored, he can rampage or force his friends to play with him. Children with disability intellectual have a risk of experiencing problem behavior (Eisenhower et al., 2005), and noncompliance is one of the most common problems in individuals with disability intellectual, especially when there is a mismatch in giving attention and reinforcement from the environment surrounding area (Stott et al., 2017).

Test results Standard Progressive Matrices (SPM) show that the subject is at the level low intellectual, in the category "intellectually defective" or grade V, which indicates the existence of limitations significant in the ability to think logically and solve problems abstractly. Disability is characterized by the existence of significant limitations on function and intellectual and behavioral adaption, the emergence of which happens before the age of 18 years (Hallahan et al., 2014). It shows that the subject has limitations in understanding and processing complex information, and the possible needs support special in Education as well as adjustment curriculum to be able to follow appropriate learning with his needs.

Intervention

Targets and Designs Intervention Main target intervention This is to increase the behavior of obedient subjects in school, including the ability to wait their turn, obey commands, and reduce tantrum behavior when their wishes are not fulfilled. The token economy technique is used as a method of modifying behavior. This technique was chosen Because it has proven effective In increasing compliance of children with ID (Kaduson & Schaefer, 2021). Children with ID often experience a solution to understanding consequences abstractly or postpone gratification because limitations function cognitively and adaptively (Jahromi et al., 2019). It makes economic tokens easily counted, visible, and immediate given moment behavior happens makes a child immediately see results without the need to understand draft abstract time become an appropriate intervention for children with ID. The token economy also significantly increases behavior obedience and academic achievement in students with disability intellectual in educational settings specifically (Elfiana, 2024; Yeen & Nordin, 2024). The use of economic tokens is effective in increasing order and obedience of intellectual children with disability in category heavy (Noviyanti et al., 2020). Token economy techniques are effective in increasing compliance and disciplining students, including those with disability intellectual (Sidiq et al., 2020).

With economic tokens, every obedient behavior of the subject will get a token in the form of an animal sticker. Suppose the subject manages to collect 20 stickers in one week. In that case, the subject will receive a strawberry milk reward according to the child's preference, which is chosen by considering the child's father's advice to avoid the risk of allergies.

Session 1 (Preparation and Education). In this session, the parents, namely the subject's father, teacher, and subject, were given an explanation regarding the problems complained about the subject by both the subject's father and the teacher. The subject's father and teacher agreed to determine the target, namely to improve the subject's obedient behavior. Furthermore, the subject's father, teacher, and subject were explained the intervention technique that would be given, namely economic tokens; the subject's father agreed to provide tokens in the form of stickers that would be given to the subject if the subject could demonstrate obedient behavior. These stickers would later be attached to the daily obedient behavior reporting paper. If the subject could collect 20 stickers in 1 week, the subject would later be given his favorite strawberry milk; this was also on the advice of the subject's father to avoid giving gifts that could endanger the subject's condition (allergies). The teacher also agreed to provide intervention during class to see the subject's obedient behavior to the teacher's orders. However, the subject's father objected if the intervention was carried out at home because the subject's father worked until night, and after school, the subject was entrusted to a neighbor; the subject's father could not permit intervention and direct observation to be carried out at the neighbor's house or the subject's house because it could only be done at night when it was time for the subject and the subject's father to rest. So, the subject's father decided to provide intervention at school first, and if there were changes, it would be continued at home. The results of this session were that the subject's father, teacher, and subject had knowledge related to the intervention that would be given to the subject.

Session 2 (Forming Compliant Behavior through Token Implementation). In this session, the subject was taking a sports lesson. There were several activities, namely gymnastics, a straw-into-glass competition, and pushing a table. Before starting the activity, the subject was reminded again that if he were obedient, he would get a sticker, and if he collected many stickers, the subject could get strawberry milk. When the activity of putting straws into the glass, the subject did it well and looked happy; the subject smiled and laughed a lot. After that, the subject was asked to sit down to wait because now it was the subject's friend's turn. The subject remained standing and asked the teacher to let him do the activity, but the teacher reminded the subject again to be patient and wait. The subject whined, but when reminded once again by the teacher, the subject was willing to sit down and wait. The subject was given one sticker because of his obedience.

After getting one sticker, the subject asked for another sticker but was reminded that he would only get a sticker if he obeyed his teacher. The subject insisted by pointing at the sticker and wanting to grab it. The teacher who saw it then asked the subject to wait patiently in a high tone; the subject looked scared and finally kept quiet, did not whine or want to grab another sticker; after a minute, when the subject was no longer scared, the subject was given an understanding that he had obeyed the teacher and could get another sticker. After the sports activity was over, the subject and his classmates were asked by the teacher to hold hands while walking to school from the field where the sports were held. The subject refused by saying "no..." the teacher asked the subject again to hold hands with his friend, and this time, the subject still did

not obey. The teacher asked again for the third time, and the subject still refused this time while moving his body away and running. In this command, the subject did not show obedience.

Then, when they arrived in class, the subject and his friends took a break and had lunch. The subject brought supplies and could eat by himself without help. While eating, the subject then got up and started approaching his friends to invite them to play; the teacher then asked the subject to sit back down. The subject sat back down. Because the subject was obedient, the subject was then given one more sticker. When he had attached the sticker, the subject then asked for another sticker, and the subject was reminded again that the new sticker would be obtained if the subject was willing to obey his teacher. However, the subject insisted, to the point of removing all the stickers that had been attached, and stamped his hands to show his anger. The teacher then said no to the subject and asked the subject not to remove the stickers that had been attached, but the subject instead got up and went out while carrying his behavior recording sheet. In this session, of the five commands given by the teacher, the subject could only obey four commands. The subject was then given four stickers that were attached to the behavior reporting sheet.

Session 3 (Affirmation of Compliant Behavior). In this session conducted in the classroom, the subject is learning to read one syllable at a time. The subject is asked to look at the sheet presented in front of him by his teacher and start reading; the subject initially does not focus and still looks away. The teacher again emphasizes to the subject to look at the paper presented to the subject; the subject looks at the paper and starts practicing reading. After finishing reading, the subject is then given a sticker because he can obey his teacher's orders.

After finishing reading, the teacher continued to prepare the next class material. The subject then called the teacher repeatedly to show his behavior reporting sheet. The teacher answered, but the subject still called the teacher repeatedly until he shouted several times. The subject then got up from his seat and approached his friends to show the stickers he got. The other friends also started to stand up, and the class became unconducive. The teacher then asked the subject to sit back down, but the subject walked out of the class. Moreover, to sit back down, the subject had to be pulled and forced to sit down.

Then, in the next lesson, the subject repeatedly called the teacher to get attention; the teacher asked the subject to wait for his turn because he had to take turns with other friends. The subject then remained silent and just sat on his chair. Because the subject showed an obedient attitude, the subject was then given one sticker. Furthermore, the subject was reminded to sit and face the front four times, and only one of the subjects was able to obey. In this session, out of the seven commands given, the subject showed an obedient attitude four times.

Session 4 (Behavioral Consistency and Stabilization). In this session conducted in class, the subject was learning to clean mustard greens by removing each stalk and then washing it. The subject had to be patient because after finishing removing each stalk, before washing, he had to wait for his other friends to finish removing each stalk, too. When he had finished removing the stalk, the subject approached the teacher, who was helping another friend, and asked the teacher to help him wash his mustard greens immediately. However, the teacher asked the subject to sit back down and wait; the subject was still whining by pulling his teacher's shirt, and the friend who was being helped lost focus and instead paid attention to the subject. The teacher then asked the subject again to sit down and wait while sharpening his gaze; the subject then returned to his seat and waited. The subject also got a sticker for being able to obey what his teacher asked.

Then, the subject got his turn to wash the mustard greens first. Because he finished earlier, the subject became impatient and forced the teacher to switch to another activity immediately. The subject whined by pulling the teacher's hand, but the teacher ignored the subject. Because the subject continued to whine, the teacher then reminded the subject to obey because if he obeyed, he would get a sticker. The subject then laughed and looked happy. He then kept quiet and waited for the other friends. Because the subject was obedient, the subject got one sticker.

In class, the subject was asked to wait for his turn four times, and out of the four times, the subject only obeyed once. When the subject was working on the problem, some subjects were distracted by standing up and inviting their friends to play, but the teacher then reminded the subject to sit back down and work; the subject could obey this command. In this session, out of eight commands given by the teacher, the subject could obey 4 times.

Session 5 (Initial Monitoring and Evaluation). In this session, the same as the previous session, the subject was reminded again that if he could obey his homeroom teacher, he would get a sticker as a reward, and if he collected 20 stickers, the subject could exchange them for strawberry milk. The subject then began to carry out his activities in this session; the subject could perform obedient behavior 2 times out of a total of 5 times the teacher gave the command.

Then, in the next session, the subject showed obedient behavior only 3 times when asked to sit back down when he was angry and crying because his wishes were not fulfilled; this also had to be supported by the teacher, who raised his voice to the subject.

In the next session, the subject was able to demonstrate obedient behavior 3 times out of 5 commands given, namely to sit back down and not disturb friends, then when the subject was asked to wait for his turn. In the last session, the subject demonstrated obedient behavior 3 times out of 4 teacher commands given. Namely when the subject was asked to wait for recess to shop and when the subject was asked not to grab stickers that had not been given. In this session, the subject was a very angry sh, outing, and stomping because he wanted to ask for a sticker, but the subject could understand when given an understanding that he had to be patient and obedient to his homeroom teacher first before getting a sticker.

Session 6 (Evaluation and Termination). In this session, parents are given an explanation regarding how children develop and what parents need to do to maintain children's behavior and improve children's obedient behavior when under parental supervision. Parents, in this case, the subject's father, understand what needs to be done. The subject's father understands the concept of token economy, which may continue to improve the subject's obedient behavior when at home to form and maintain the subject's behavior.

In this session, an evaluation was also conducted regarding the intervention process that had been given together with the homeroom teacher and parents. Based on the evaluation results, it was found that the subject had understood that he needed to obey the orders given by the teacher to be willing to wait his turn and not to force his will. Although, in practice, the subject still refused to obey the teacher's orders several times, there was an increase in the subject's obedient behavior. Reinforcement was given to the subject's father to continue giving economic tokens at home to improve the subject's obedient behavior toward his father. After the evaluation was carried out, the intervention process was ended. In this session, the number of stickers obtained by the subject was also calculated, and the subject managed to collect 19 stickers. The subject was then given strawberry milk as a reward for successfully collecting stickers, as promised.

Session 7 (Follow-Up). Follow-up was conducted 14 days after the evaluation and termination session took place. During this session, the subject was following the learning in class and was seen getting up from his seat several times to approach his friends while the learning was taking place, but when the teacher asked him to sit back down, the subject would do so and immediately sit back down. During the 1-hour observation session, the subject was seen showing 3 times of obedience to the teacher out of 4 commands given. When interviewed by the teacher, the teacher also said that the subject was more obedient to the commands given, and although occasionally still disobedient, it did not make the subject angry or go on a rampage.

Result and Discussion

Result

The results of the intervention showed changes in the subject, namely an increase in obedient behavior marked by a willingness to follow what the subject's homeroom teacher said and ordered. The subject initially often interrupted learning activities in a class by calling the homeroom teacher repeatedly, asking repeated questions, and disturbing friends who were studying, causing the class to become unconducive. The homeroom teacher was overwhelmed because the subject's friends, who also had special needs (intellectual disabilities and autism), needed the same amount of attention as the subject. If the subject started to disrupt activities in class, the subject's friends often became distracted and even ran out of class. So, intervention was given to improve the subject's obedient behavior. During the intervention process, the subject began to be able to show obedient behavior even though several times he still showed anger by rebelling, crying, and screaming.

During class activities, subjects who are accustomed to calling the teacher to seek attention, shouting, and disturbing friends when the teacher is paying attention to other friends can begin to be given directions to wait and return to their seats to wait until it is their turn again. The increase in the subject's obedient behavior related to the ability to wait for one's turn can be seen in Figure 1.

Based on Figure 1, there was an increase in obedient behavior to wait for their turn in the subject when given intervention, compared to when observations were made for baseline data collection. Although several times the subject still had to be asked repeatedly, the subject was able to show obedient behavior while waiting. Where usually, when the teacher moves away from the subject and gives his attention to another subject's friend, the subject will shout, call the teacher, and even disturb friends; when given intervention, the subject began to experience changes and was willing to obey when asked to wait by returning to his seat.

Then, the obedient behavior related to following the instructions and commands given in the subject also increased. The increase in the subject's obedient behavior related to following instructions and commands can be seen in Figure 2.

Based on Figure 2, there was an increase in obedient behavior to commands when the intervention was compared to when the baseline data was taken. This shows a positive change in the subject. Subjects who previously had difficulty following instructions and commands given by the teacher, such as when asked to be quiet and not to shout, asked to sit back down, or when the subject forced his will, began to appear obedient to what was ordered by his teacher even though in some commands had to be accompanied by a high tone.

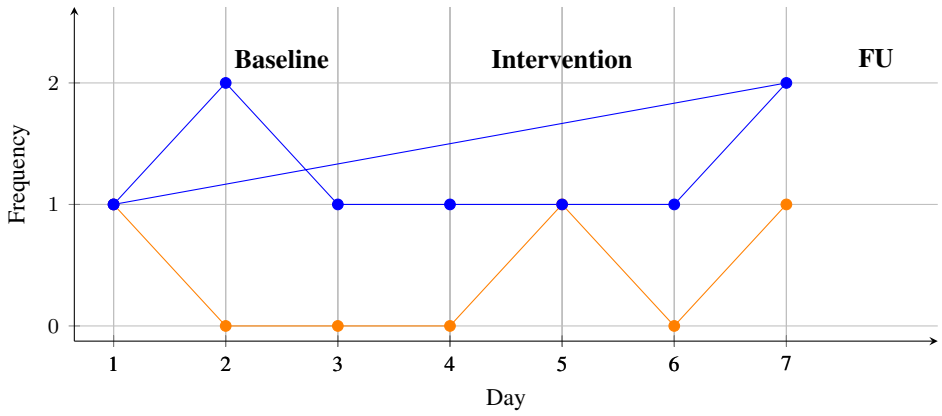
Subjects who also have a habit of always having their wishes fulfilled and, if not fulfilled, will be angry even to the point of hysterics/rage, causing difficulties for teachers at school; at times like this, it is difficult to ask the subject to calm down. So, it is expected that when the subject is not fulfilled, the subject can accept and comply with the alternatives or other options given by the teacher. The increase in obedient behavior related to not forcing his wishes can be seen in Figure 3.

Based on Figure 3, there is an increase in the subject's obedient behavior, not throwing a tantrum when his wishes are not fulfilled, and he is willing to accept other options/alternatives given by his teacher. The alternative given by his teacher is, if he does not force his wishes, he will be able to get a sticker, or when he does not force his wishes, the teacher will accompany him to the canteen to buy milk. This also helps the subject to be able to stop forcing his wishes and not throw a tantrum.

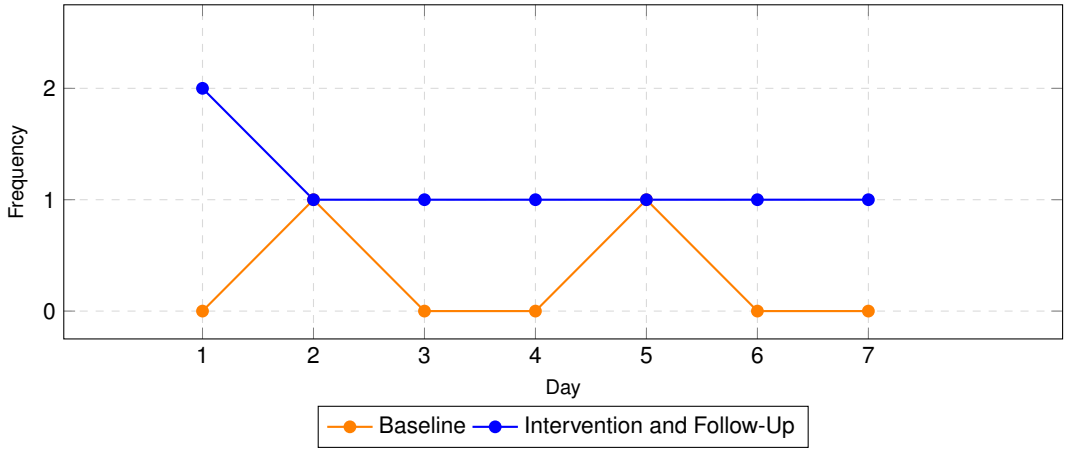
Discussion

The results of the intervention showed that economic tokens were effective in improving the obedient behavior of children with intellectual disabilities. Compliance can be defined as a child's ability to adjust behavior based on the orders or wishes of the caregiver (Liu & Edwards, 2003). The occurrence of disobedient behavior of the subject when at school was caused by the formation of behavior that was always reinforced by the homeroom teacher at school. Where when the subject enforced his wishes, the teacher tended to give in in order to keep the class conditions calm and conducive, so the subject became accustomed to imposing his wishes by getting angry, screaming, crying, and whining.

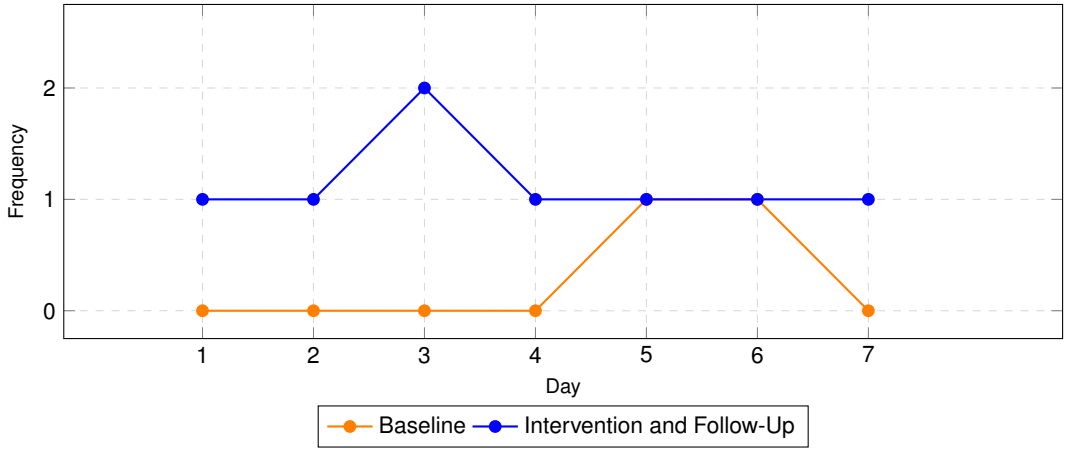
Noncompliance is behavior that is intentionally shown by a child, either actively or passively, to not perform actions at the requests of parents or other authority figures (Kalb & Loeber, 2003). Kochanska & Aksan (1995) stated that there are three forms of noncompliance behavior displayed by children, namely passive noncompliance, overt resistance,



Picture 1. The graph illustrates the frequency of a target behavior observed during three distinct phases: Baseline (Days 1–7), Intervention (Days 1–7), and Follow-Up (Day 1). During the Baseline phase, the behavior occurred inconsistently, with frequencies fluctuating between 0 and 1. A slight increase was observed during the Intervention phase, peaking at a frequency of 2 on Day 2 before stabilizing at 1. In the Follow-Up phase, the behavior remained relatively consistent, indicating a potential effect of the intervention over time.



Picture 2. The graph presents the frequency of the target behavior over three phases: Baseline (Day 1–7), Intervention (Day 1–6), and Follow-Up (Day 7). During the Baseline phase, the behavior occurred inconsistently, with a maximum frequency of 1. Following the introduction of the intervention, the behavior peaked at 2 before stabilizing at a consistent frequency of 1 throughout both the Intervention and Follow-Up phases. These results suggest the intervention may have contributed to the stabilization of the target behavior.



Picture 3. This line graph shows the frequency of the target behavior across three phases: Baseline (Day 1–7), Intervention (Day 1–6), and Follow-Up (Day 7). During the Baseline phase, the behavior was absent at first but began to appear on Days 5 and 6, before disappearing again. Following the intervention, the behavior immediately increased to a higher and more consistent level, peaking on Day 3. It then remained stable throughout the follow-up, suggesting that the intervention may have successfully maintained the desired behavior over time.

and defiance. In passive noncompliance behavior, children show noncompliance by ignoring parental requests. In overt resistance behavior, also known as self-assertive (Braungart-Rieker et al., 1997), children show rejection of parental requests by giving reasons or negotiating with parents. This form of noncompliance behavior is behavior that is still acceptable because it reflects the development of children's social skills and independence. In defiance behavior, children show rejection accompanied by negative emotional expressions, such as sulking, crying, screaming, kicking, and other aggressive actions. The disobedient behavior shown by the subject is defiance behavior, where the subject shows disobedient behavior with negative emotional expressions.

Children with intellectual disability (ID) have a risk of experiencing problem behavior (Eisenhower et al., 2005). Noncompliance is one of the problems most common behaviors in individuals with intellectual disability (Arbelle et al., 1994). Disability intellectual disorders are characterized by the existence of significant limitations on functional intellectual and behavioral adaption, the emergence of which happens before the age of 18 years (Hallahan et al., 2014). The subject shows existing symptoms of disability and intellectual behavior, does not obey the orders given by the homeroom teacher, and tends to force his wishes by showing expression of negative emotions. So, that behavior tends to disturb the people around him.

In children with disability intellectual, bait is given as soon as possible. It is very necessary for them to understand the connection between behavior and the consequences obtained (Adibsereshki et al., 2015). Therefore, giving reinforcement immediately, as applied in the token economy, is one of the right ways To teach skills to children with disability intellectual (Permatasari & Rifameutia, 2023). A token economy is one of technique modification behavior with the method providing a token (sign) in the form of coin or stickers that aim To improve and maintain behavior positive on the subject as well as lower inappropriate behavior expected (Kikiany, 2017). So, the economic token is expected to be able to increase obedient behavior in the subject.

A token economy is a form of behavioral change designed using a reinforcement system for managed and changed behavior so that individuals are given reinforcement to increase and decrease desired behavior (Zlomke & Zlomke, 2003). According to Wasserman & Vogrin (1979), a token economy can increase expected behavior, reduce undesirable behavior, and maintain expected behavioral targets so that the expected behavioral target in the subject is to increase obedient behavior by being able to obey/listen to the instructions/orders of their homeroom teacher. The results of a review study by (Tan et al., 2016) showed that the application of the token economy can help manage behavior in children with normal development and special needs. Other studies have also shown that the token economy can increase obedient behavior (Syafiin, 2021).

Conclusion and Implication

The implementation of the token economy has proven effective in increasing obedient behavior in children with intellectual disabilities. Subjects who initially showed disobedient behavior (defiance), such as forcing their will, shouting, and tantrums, began to show obedience to teacher instructions, the ability to wait their turn, and decreased emotional outbursts. The success of this intervention cannot be separated from the provision of consistent positive reinforcement, teacher involvement in the reinforcement process, and the active role of parents. Therefore, teachers are advised to continue to apply the principle of token economy with a consistent and flexible approach according to class conditions, and parents are also expected to continue support at home so that positive behavior can persist in the long term. Collaboration between teachers and parents is key to the sustainability of behavioral change.

Acknowledgement

The authors would like to thank the subjects, parents, and class teachers who were willing to be part of this study and the school who provided permission and support during the intervention process.

Author Contribution

All authors contribute to the research process and writing of research reports.

Conflict of Interest

The writer states that there is no conflict of interest in this research.

Funding

This study not accepting funding from institutions wherever and implemented in a way independent.

Article history

Submissions: 2024-10-27
Review Process: 2025-05-16
Revised: 2025-05-29
Accepted:2025-06-19
Published: 2025-06-30

Reference

Adibsereshki, N., Abkenar, S. J., Ashoori, M., & Mirzamani, M. (2015). The effectiveness of using reinforcements in the classroom on the academic achievement of students with intellectual disabilities. *Journal of Intellectual Disabilities, 19*(1), 83–93. https://doi.org/10.1177/1744629514563441

Alarifi, S., Denne, L., & Hastings, R. P. (2024). Challenging behaviour and its correlates in preschool-aged children with an intellectual disability in Saudi Arabia. *Journal of Intellectual Disability Research, 68*(3), 264-276.

Arbelle, S., Sigman, M. D., & Kasari, C. (1994). Compliance with parental prohibition in autistic children. *Journal of Autism and Developmental Disorders, 24*(6), 693-702.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.

Boland, G. M., Potter, A.-M., de Paor, E., & Guerin, S. (2024). Social inclusion of adults with intellectual and developmental disabilities: Toward belonging. *Research in Developmental*

Disabilities, 136, 104520. https://doi.org/10.1016/j.ridd.2023.104520

Braungart-Rieker, J. M., Garwood, M. M., & Stifter, C. A. (1997). Compliance and noncompliance: The roles of maternal control and child temperament. *Journal of Applied Developmental Psychology, 18*(3), 411–428.

DeJager, B., Houlihan, D., Filter, K. J., Mackie, P. F. E., & Klein, L. (2020). Comparing the effectiveness and ease of implementation of token economy, response cost, and a combination condition in rural elementary school classrooms. *Journal of Rural Mental Health, 44*(1), 39–50. https://doi.org/10.1037/rmh0000123

Eisenhower, A. S., Baker, B. L., & Blacher, J. (2005). Preschool children with intellectual disability: Syndrome specificity, behaviour problems, and maternal well-being. *Journal of Intellectual Disability Research, 49*(9), 657–671.

Elfiana, M. L. (2024). Token Economy to Reduce Aggressive Behavior in Adolescent with Intellectual Disabilities. *KnE Social Sciences*, 30–44. https://doi.org/10.18502/kss.v9i5.15160

Feist, G. J., & Feist, J. (2008). *Theories of personality* (7th ed.). McGraw-Hill.

Ginting, L. R. (2018). *Meningkatkan Perilaku Patuh dan Kemandirian Melalui Bercerita pada Anak Usia Dini di PAUD Al-Ihmy Medan* (Doctoral dissertation, Universitas Medan Area).

Hallahan, D. P., Kauffman, J. M., & Pullen, P. C. (2014). *Exceptional learners: An introduction to special education* (13th ed.). Pearson.

Hammond, C., Smith, J., & Lee, A. (2025). Psychological well-being and support needs in individuals with intellectual disabilities. *Journal of Intellectual Disabilities, 29*(1), 45–59. https://doi.org/10.3109/13668250.2025.2499009

Irvan, M., & Jauhari, M. N. (2020, December). Family intervention: A systematic learning approach for children with disabilities during pandemic covid-19. *1st International Conference on Information Technology and Education (ICITE 2020)* (pp. 223-227). Atlantis Press.

Jacob, U. S., Adegboye, K. R., & Pillay, J. (2022). Token Reinforcement, Cognitive Behavioural Therapy, Degree of Disability and Managing Aggressive Behaviour Among Pupils With Intellectual Disability. *Pedagogical Discourse, (33)*, 7-18. https://doi.org/10.31475/ped.dys.2022.33.01

Jahromi, L. B., Chen, Y., Dakopolos, A. J., & Chorneau, A. (2019). Delay of gratification in preschoolers with and without autism spectrum disorder: Individual differences and links to executive function, emotion regulation, and joint attention. *Autism, 23*(7), 1720-1731. https://doi.org/10.1177/1362361319828678

Kaduson, H., & Schaefer, C. (2021). *Play therapy with children: modalities for change.* American Psychological Association.

Kalb, L. M., & Loeber, R. (2003). Child disobedience and noncompliance: A review. *Pediatrics, 111*(3), 641-652.

Kart, A., & Kart, M. (2021). Academic and social effects of inclusion on students without disabilities: A review of the literature. *Education Sciences, 11*(1), 16.

Kasiveloo, M., Tan, K. H., Said, N. E. M., Philip, B., & Rashid, S. M. M. (2022). The use of the token economy in ESL classrooms during the COVID-19 pandemic. *Theory and Practice in Language Studies, 12*(12), 2486–2496. https://doi.org/10.17507/tpls.1212.17

Kikiany, G. (2017). Token Economy untuk Mengurangi Perilaku Menentang pada Anak Oppositional Defiant Disorder. *Procedia: Studi Kasus Dan Intervensi Psikologi, 5*(2), 45-53.

Kochanska, G., & Aksan, N. (1995). Mother-child mutually positive affect, the quality of child compliance to requests and prohibitions, and maternal control as correlates of early internalization. *Child development, 66*(1), 236-254.

Kurtz, H. E., Chin, C., & Reber, S. (2011). Psychosocial outcomes in children with intellectual disabilities: A longitudinal study. *Research in Developmental Disabilities, 32*(5), 1693–1703. https://doi.org/10.1016/j.ridd.2011.05.009

Liu, W., & Edwards, C. P. (2003). *Chinese Parents' Knowledge, Attitudes, and Practices about Sexuality Education for Adolescents in the Family*. DigitalCommons@University of Nebraska - Lincoln. https://digitalcommons.unl.edu/famconfacpub/17/

Liu, J., & Edwards, J. G. H. (2018). *Peer response in second language writing classrooms*. University of Michigan Press.

Maesaroh, S., & Fauziah, A. N. (2019). Perilaku Ibu Dalam Stimulasi Perkembangan Anak Di Posyandu Jetis Juwiring Klaten. *Avicenna: Journal of Health Research, 2*(2), 96-103.

McKinney, J. A., Silva, D. L., Tran, Q. M., & Rivera, A. M. (2024). Environmental and caregiving factors influencing adaptive development in children with intellectual disabilities: A longitudinal study. *Child Development, 95*(2), 487–503. https://doi.org/10.1111/cdev.14001

Milonas, A., Hutchinson, A., Charlesworth, D., Doric, A., Green, J., & Considine, J. (2017). Post resuscitation management of cardiac arrest patients in the critical care environment: A retrospective audit of compliance with evidence based guidelines. *Australian Critical Care, 30*(6), 299-305.

Nastasi, B. K., Sledge, W. H., & Johnson, N. A. (2020). Stress and coping in families of children with intellectual disabilities. *Behavioral Interventions, 35*(2), 123–135. https://doi.org/10.1002/bin.1711

Noviyanti, A. D., Tarsidi, I., Ginintasasi, R., & Mutaqin, R. S. (2020). The Effectiveness of Token Economy in Improving Adaptive Daily Living for Children with Intellectual Disability. In *Advances in Social Science, Education and Humanities Research* (Proceedings of the International Conference on Educational Psychology and Pedagogy-"Diversity in Education" (ICEPP 2019)). https://doi.org/10.2991/assehr.k.200130.068

Permatasari, S. A., & Rifameutia, T. (2023). Penerapan token economy dalam meningkatkan rentang perhatian anak dengan disabilitas intelektual. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 7*(2), 1598–1610. https://doi.org/10.31004/obsesi.v7i2.3813

Safitri, A., Putri, F. S., Fauziyyah, H., & Prihantini, P. (2021). Pendidikan di Masa Pandemi Covid-19 dalam Penerapan Kurikulum 2013. *Jurnal Basicedu, 5*(6), 5296-5304.

Sarwono, S. W., & Meinarno, E. A. (2011). *Psikologi sosial*. Salemba Humanika.

Sidiq, M. S., Mulawarman, M., & Awalya, A. (2020). The effectiveness of behavioral counseling with token economy and behavior contract techniques to reduce academic procrastination. *Jurnal Bimbingan Konseling, 9*(2), 76-84.

Singh, P. S. J., Azman, A., Drani, S., & Nor, M. I. H. M. (2023). Navigating the terrain of caregiving of children with intellectual and developmental disabilities: Importance of benefit finding and optimism. *Humanities and Social Sciences Communications, 10*, 738. https://doi.org/10.1057/s41599-023-02211-x

Stott, J., Charlesworth, G., & Scior, K. (2017). Measures of readiness for cognitive behavioural therapy in people with intellectual disability: A systematic review. *Research in developmental*

disabilities, 60, 37–51. https://doi.org/10.1016/j.ridd.2016.11.003

Sunarsih, S., Manurung, I., & Holidy, H. (2021). Pengaruh Terapi Token terhadap Kemampuan Mengontrol Perilaku Kekerasan pada Pasien Gangguan Jiwa. *Jurnal Ilmiah Keperawatan Sai Betik, 17*(1), 16-20.

Süngü, B., Özer, D., & Has, B. (2023). A study of the adaptation processes of individuals with intellectual disabilities and their mothers to COVID-19 restrictions. *BMC Public Health, 23*, 1158. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11585182/

Syafiin, M. (2021). Pengaruh token economy terhadap perilaku kepatuhan anak berkebutuhan khusus. *Jurnal Intervensi Psikologi, 13*(1), 23–29.

Tan, C. Y., Lee, L. W., Leong, K. M., & Abdullah, Y. (2016). Effectiveness of token economy intervention for children with challenging behaviours: A review of literature. *Journal of ICSAR, 1*(2), 104–111. https://doi.org/10.17977/um005v1i22016p104

Yeen, D. T., & Nordin, M. H. (2024). The effectiveness of token economy in improving concentration and reducing disruptive behaviour among autistic students. *Special Education, 2*(1), 1-14. https://doi.org/10.59055/se.v2i1.11

Wahyuni, R., & Rohani, S. (2017). Faktor-faktor yang mempengaruhi persalinan preterm. *Jurnal Aisyah: Jurnal Ilmu Kesehatan, 2*(1), 61–68. https://doi.org/10.30604/jika.v2i1.15

Wasserman, T. H., & Vogrin, D. J. (1979). Relationship of endorsement of rational beliefs, age, months in treatment, and intelligence to overt behavior of emotionally disturbed children. *Psychological Reports, 44*(3), 911-917.

Wilson, R. C., & Collins, A. G. (2019). Ten simple rules for the computational modeling of behavioral data. *Elife, 8*, e49547.

Zlomke, K., & Zlomke, L. (2003). Token economy plus self-monitoring to reduce disruptive classroom behaviors. *The Behavior Analyst Today, 4*(2), 177.