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Handling Disruptive Behavior with Token Economy at Charis Early Childhood Education Ternate City

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ABSTRAK

Salah satu masalah yang sering mengganggu situasi pembelajaran adalah munculnya perilaku disruptif. Perilaku disruptif pada siswa adalah perilaku tidak pantas yang dilakukan siswa selama proses pembelajaran, sehingga membuat kelas kurang kondusif. Tujuan penelitian ini adalah upaya untuk mengubah perilaku disruptif dengan menggunakan media token ekonomi. Penelitian ini merupakan penelitian kuantitatif dengan metode eksperimental Desain penelitian ini menggunakan One Group Pretest-Posttest Design dengan sampel seluruh anak kelompok A berjumlah 11 anak. Hasil yang diperoleh adalah terdapat perbedaan rata-rata presentasi pretest (59,8) dan posttest (89,3) pada anak setelah perlakuan menggunakan ekonomi token. Terdapat pengaruh yang signifikan dengan nilai Sig. (2-tailed) sebesar 0,000 <0,05 yang menunjukkan perbedaan signifikan antara hasil pretest dan posttest. Hasil regresi yang diperoleh adalah Y = 61,702 + 0,463X, sehingga dapat disimpulkan bahwa penggunaan ekonomi token berpengaruh positif terhadap penurunan perilaku disruptif. Penelitian ini diharapkan dapat membantu guru dalam menangani perilaku disruptif siswa selama proses pembelajaran di kelas.

ABSTRACT

One of the challenges that frequently disrupts the learning environment is the emergence of disruptive behavior among students. Disruptive behavior refers to inappropriate actions displayed by students during the learning process that interfere with classroom activities and reduce the conduciveness of the learning environment. This study aimed to reduce disruptive behavior through the implementation of a token economy intervention. A quantitative research approach with an experimental method was employed. The study adopted a One-Group Pretest–Posttest Design, involving all 11 children in Group A as the research sample. The findings revealed a notable difference between the mean pretest score (59.8) and the mean posttest score (89.3) following the implementation of the token economy intervention. Statistical analysis indicated a significant effect, with a Sig. (2-tailed) value of 0.000 (< 0.05), demonstrating a statistically significant difference between the pretest and posttest results. Furthermore, the regression analysis yielded the equation Y = 61.702 + 0.463X, indicating that the token economy intervention had a positive effect on reducing disruptive behavior. These findings suggest that the token economy strategy is an effective approach for minimizing disruptive behavior and may serve as a practical classroom management tool to assist teachers in addressing students' disruptive behavior during the teaching and learning process.

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1. Introduction

Disruptive behavior in students is inappropriate behavior that occurs during the learning process, making the classroom less conducive (Jati, A. F., Fauziati, E., & Wijayanto, 2019). Disruptive behavior can be reduced and overcome by maintaining a consistent token economy with continuous, long-term reinforcement (Doreen Tan Yeen, 2024). Token economics is a

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systematic approach that adopts interventions to guide behavior, reduce desired behaviors, and strengthen desired behaviors (F.-Y. Wang, J.J. Zhang, 2019) and (Lahamutu, 2020). One effort to change behavior is by implementing a token economy (Syahdiba, S., Wardah, W., Malfasari, E., Yanti, S., Azhar, B., Nelma, U., & Akbar, 2021). The token economy system focuses on rewarding target behaviors. Target behaviors are rewarded with tickets that are exchanged for reserve rewards for desired behaviors (Akpotaire, 2020).

Token economics was initially applied in the financial sector. The use of token economics in the field of digitalization for the financial sector (Sunyaev, A., Kannengießer, N., Beck, 2021) and (Drasch, B.J., Fridgen, G., Manner-Romberg, 2020). In developing countries, using digital token economy for developing the population's economy (Thetlek, R., Kraiwanit, T., Jangjarat, K., Limna, P., & Shaengchart, 2023). In addition, the token economy system is also applied in the health sector. Token economy is used for patient behavioral therapy (Syahdiba, S., Wardah, W., Malfasari, E., Yanti, S., Azhar, B., Nelma, U., & Akbar, 2021). Recently, token economy has developed and can be applied to the world of education. In the United States, many teachers feel ill-prepared to manage student behavior in the classroom positively (Downs, K. R., Caldarella, P., Larsen, R. A. A., Charlton, C. T., Wills, H. P., Kamps, D. M., & Wehby, 2019). Token economy is recommended as an ideal technique for counseling and guiding students to avoid truancy. Token economy with its reward system seems more appropriate for reducing truancy, emphasizing the importance of rewards instead of punishment and skills training rather than simply offering information. Teaching students how to take responsibility for their actions is more effective than simply giving instructions on what not to do (Sulaiman, A. A., & Uhuegbu, 2021). Effective classroom management is necessary for an effective behavioral support model (Yassine Jordan, Leigh Ann Tipton-Fisler, 2020). The practice of awarding tokens to students in class is common in various countries. The implementation of a token economy is emphasized as an important element in the 21st-century classroom. The use of a token economy is considered a crucial element in the classroom, and schools can modify the token economy system as a flexible and effective intervention. Token economy is an important element in teaching young students to increase their motivation for learning. Students are recognized and given the feeling of being valued for the efforts they have made to obtain an education. This effort will help students stay motivated even when facing difficulties (Tan, K.H.; Kasiveloo, M.; Abdullah, 2022). Token economy in education is a management system that encourages desired behavior and has been widely implemented to change disruptive behavior of students in class, student learning motivation is higher compared to subjects who are not given the token economy method (Michie, S., Johnston, M., & Carey, 2020) (Bossenbroek R, Wols A, Weerdmeester J, Lichtwarck-Aschoff A, Granic I, 2020) (Ahkam Muh., Hilwa Anwar, 2020) (Beahm, L.A., Ingvarsson, E.T., Funk, 2023). Token economy is one of the common methods of positive behavioral support in the classroom, where tokens are given to students, especially male students, for showing disruptive behavior on condition that they show certain behaviors, such as successfully answering questions correctly and neatly, and not showing disruptive behavior within the specified time, in this case students will exchange the tokens obtained for interesting items ((RL Williamson, 2020) (Soares, D. A., Harrison, J. R., Vannest, K. J., Mcclelland, S. S., & Bowman-Perrott, 2019) (Aziz, N., & Yasin, 2018) (Rahmadhony Samurya, 2019) (Kessels, U., Heyder, 2020).

Previous studies have demonstrated that the token economy behavior modification technique is widely used to address undesirable behaviors among children. The implementation of the token economy technique has been shown to effectively reduce disruptive behavior while promoting desirable social and academic behaviors among students (Yasin Mohd Hanafi Mohd, Khairul Farhah Khairuddin, Farrah Mohd Haslam Marripan, 2019; Smith, J., Guimond, F. A., St-Amand, J., Olivier, E., & Chouinard, 2022). A token economy is one of the most commonly applied behavioral interventions and has been proven effective in increasing appropriate

behaviors across diverse populations and settings (Nastasi, J. A., Sheppard, R. D., & Raiff, 2020). In addition, the implementation of the token economy technique has been found to enhance students' learning motivation. Significant improvements have been observed as students gradually develop consistent learning habits, eventually integrating learning activities into their daily routines (Arifin Miftahul & Bangun Firmansyah, 2022). Furthermore, the token economy strategy has been shown to be effective in reducing students' academic procrastination (Wahyuni Hera, Nelyahardi Gutji, & Affan Yusra, 2022). Other studies have also reported that self-harm behaviors decreased following the implementation of a token economy intervention, suggesting that continuous application of this strategy may contribute to reducing self-harm behaviors among students (Hidayati, B. M. R., & Rohmah, 2022). Despite these promising findings, most previous studies have focused on the effectiveness of token economy interventions in addressing various behavioral problems among elementary school students, secondary school students, or individuals with specific characteristics. Research specifically investigating the use of token economy to reduce disruptive behavior among young children in early childhood education settings remains limited. Moreover, only a few studies have evaluated the effectiveness of this intervention using a One-Group Pretest–Posttest experimental design within kindergarten classroom settings. Therefore, the present study was conducted to address this research gap by examining the effect of the token economy technique on reducing disruptive behavior among young children during classroom learning activities. The findings of this study are expected to provide additional empirical evidence supporting the effectiveness of the token economy as a behavior management strategy in early childhood education.

Disruptive behavior can decrease students' academic achievement (Granero-Gallegos, A., Gómez-López, M., Baena-Extremera, A., & Martínez-Molina, 2020). In early childhood, milder disruptive behaviors (e.g., whining, arguing, breaking rules, and fighting) within a peer context, empathizing with others' emotions is more important than understanding one's own mental and emotional state to reduce disruptive behavior. (Ekerim-Akbulut, M., Şen, H.H., Beşiroğlu, 2020). Disruptive behavior, which is considered to hinder teacher instruction, student learning, and the classroom environment, is a significant problem faced by teachers every day (Wangdi Thinley & Namgyel Samten, 2022). Behavior modification through token economy can effectively increase responsible behavior (Irsahamida Syifia, Evi Lutfiyani, 2022). Disruptive behavior disrupts the flow of lessons, interferes with student learning, and can also challenge the authority of teachers when student behavior is disobedient or defiant (Kessels, U., Heyder, 2020). Some behavioral disorders in the classroom are caused by; lack of motivation in learning, excessive talking, Asking irrelevant questions, teacher strategies to avoid student misbehavior: Using class rules, Not giving punishment, reprimanding with body language such as sharp gaze, raising voice while teaching, giving constructive/positive words, (Debreli, E., Ishanova, I., & Sheppard, 2019). One of the most important aspects of teaching is how effectively a teacher manages the class (Saleem Ayesha, Yaar Muhammad, 2019). The important role of teachers in intervention (Nemer, Shannon L., n.d.). Teachers have a major impact on students' motivation and attitudes towards learning (Bouras, 2019). Teachers can positively influence the learning environment by offering praise, thereby reducing disruptions in the classroom (Ingemarson, M., Rosendahl, I., Bodin, 2020). It was found that most teachers warned students to address or prevent unwanted behavior, and if this was unsuccessful and the problem persisted, they spoke with the family (Kazak, E., & Koyuncu, 2021).

For adolescents and adults, the implementation of token economy has generally evolved toward the use of digital media, such as software-based applications that enable the delivery, monitoring, and exchange of tokens more efficiently (Beahm, Ingvarsson, & Funk, 2023). However, this approach may not be suitable for young children, as their developmental

characteristics place them at the stage of concrete thinking, making them more responsive to visual media and hands-on activities. In response to this condition, the present study introduces an innovative implementation of the token economy by utilizing a Styrofoam board decorated with attractive images designed specifically for young children. During the implementation, each child receives a token sticker as a form of positive reinforcement whenever they demonstrate the expected behavior during classroom learning activities. The children then independently attach the token stickers to the token economy board, allowing them to visually monitor the number of tokens they have earned. This mechanism not only enhances children's motivation and engagement in maintaining positive behaviors but also provides a concrete learning experience that is developmentally appropriate. At the end of the agreed reinforcement period, the child who has accumulated the highest number of tokens receives a reward as positive reinforcement for demonstrating the expected behaviors. Therefore, this study is significant because it not only adopts the token economy concept, which has been widely implemented across different age groups, but also develops a more contextual, engaging, and developmentally appropriate medium for early childhood education. This innovation is expected to serve as an effective behavior modification strategy for reducing disruptive behaviors while simultaneously promoting positive behaviors during classroom learning activities.

2. Method

To achieve the research objectives and answer the proposed research questions, this study employed a quantitative approach using an experimental method. Experimental research is designed to determine the effect of a particular treatment or intervention on the research participants. The research design adopted in this study was the One-Group Pretest–Posttest Design, in which a single group of participants was observed before and after the implementation of the intervention.

At the beginning of the study, the participants were administered a pretest to assess their initial level of disruptive behavior. Following the pretest, the participants received the intervention through the implementation of a token economy during regular classroom learning activities. Before the intervention began, the researcher and the participants established a mutual agreement regarding the expected positive behaviors to be demonstrated during the learning process. Whenever a participant exhibited the agreed-upon positive behavior, the researcher immediately provided a token sticker as positive reinforcement. Each participant independently attached the earned token sticker to a Styrofoam token board, enabling them to visually monitor their accumulated tokens throughout the intervention. At the end of each learning session, the participant who collected the highest number of token stickers received a reward as additional positive reinforcement.

The intervention was conducted over ten classroom sessions. After the completion of the intervention, the participants were administered a posttest to evaluate changes in disruptive behavior and to determine the effectiveness of the token economy intervention in reducing disruptive behavior among the participants.

Table 1. Research Design One Group Pretest Posttest Design

Group	Pretest	*Treatment*	*posttest*
Experiment	✓	✓	✓

The study was conducted at Charis Early Childhood Education School (PAUD Charis) in Ternate City, located in Kalumpang Village, Central Ternate District, North Maluku Province, Indonesia. This study employed a one-group pretest–posttest experimental design

consisting of three stages: pretest, intervention, and posttest. During the first stage, a pretest was administered to assess the participants' initial level of disruptive behavior before the intervention. In the second stage, the token economy intervention was implemented during regular classroom learning activities over ten consecutive sessions. Before the intervention began, the researcher established behavioral expectations with the children by explaining the classroom rules and the positive behaviors expected during learning. Whenever a child demonstrated the expected behavior, the researcher immediately provided a token sticker as positive reinforcement. Each child independently placed the earned token on a Styrofoam token board with attractive pictures designed for young children. At the end of each session, the child who collected the highest number of tokens received a reward to reinforce positive behavior. In the final stage, a posttest was administered after the completion of the ten intervention sessions to evaluate changes in the participants' disruptive behavior.

The participants in this study consisted of all 11 children enrolled in Grade A at PAUD Charis, selected using a total sampling technique because the entire population met the research criteria. The research instrument was an observation sheet designed to measure disruptive behavior among young children. The observation instrument included indicators of disruptive behaviors displayed during classroom learning activities and was administered both before and after the intervention using the same observation procedures. The collected data were analyzed using descriptive statistics and inferential statistics. To determine the effectiveness of the token economy intervention, the pretest and posttest scores were analyzed using SPSS version 27.

3. RESULT AND DISCUSSION

3.1 Result

In this research activity, the researcher used a pretest and posttest on students of PAUD Charis Kota Ternate in order to reduce disruptive behavior. The researcher used 12 disruptive behaviors that can be reduced, namely disobeying rules, talking in class, arguing with classmates, throwing tantrums, not paying attention to teacher explanations, arriving late, playing with mobile phones, lying, stealing, shouting insults, and bullying. The results of the reduction in disruptive behavior in students between before and after the implementation of the token economy technique are presented in Figure 1 below:

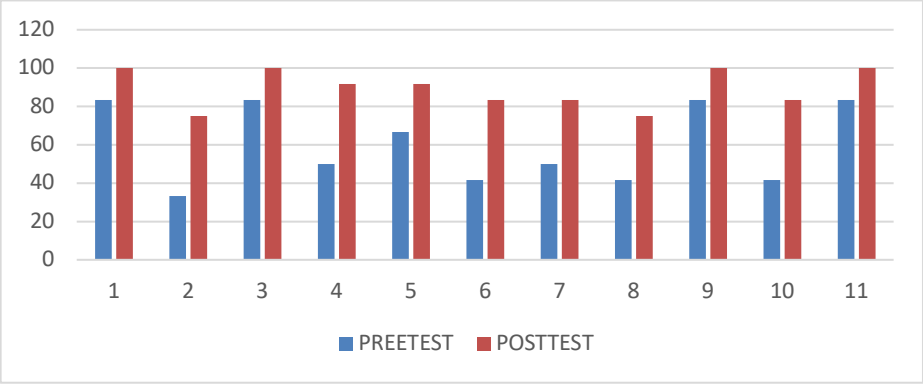


Figure 1. Pretest and Posttest Scores

The comparison of the pretest and posttest clearly shows that in the pretest there were several children who behaved quite disruptively before being given treatment. After the researcher carried out the treatment, namely the learning process using token economy, there was a decrease in children's disruptive behavior.

Table 2. Description of Data Results of Reducing Disruptive Behavior

Data	Minimum	Maximum	Average
Pretest	33.3	83.3	59.8
Posttest	75	100	89.3

The research data obtained are as follows:

Table 5. Research Data

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PREE TEST	59.8455	11	20.33162	6.13021
	POST TEST	89.3909	11	9.93161	2.99449

The mean or average value of the pretest was 59.84 with a sample of 11 children, the standard deviation was 20.33, then the mean or average value of the posttest was 89.39 from 11 children, the standard deviation was 9.93. The following researchers conducted a correlation data analysis with SPSS 27 which can be presented in the following table 6:

Table 6. The Correlation Value of Token Economy in Reducing Disruptive Behavior

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	PREE TEST & POST TEST	11	.947	.000

The following are the results of regression testing between the use of economic tokens and disruptive behavior:

Table 7.Regression Test Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.947[a]	.897	.886	3.358

a. Predictors: (Constant), *Token Economy*

Based on table 7., it shows that the correlation/relationship value (R) is 0.947. From these results, the coefficient of determination (R Square) is 0.897. This means that the influence of the independent variable on the dependent variable is 89.7%. The results of the ANOVA test using the SPSS 27 application are as follows:

Table 8. ANOVA Test Results

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	884.897	1	884.897	78.486	.000[b]
	Residual	101.472	9	11.275		
	Total	986.369	10			

a. Dependent Variable: Perilaku Disruptif

b. *Predictors*: (*Constant*), *Token Economy*

From the results of the calculation with ANOVA, it is known that the calculated F value = 78.486 with a significance level of 0.000 < 0.05, so the regression model can be used to predict media or in other words there is an influence of token economy (X) on reducing disruptive behavior (Y) in children aged 4-5 years at PAUD Charis, Ternate City. The following are the results of the coefficients test which will be presented in table 9 below:

Table 9. Results of the Coefficient test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	61.702	3.285		18.781	.000
	Token Economy	.463	.052	.947	8.859	.000
a. Dependent Variable: Disruptive Behavior						

It is known that the Constant (a) value is 61.702, while the value (b regression coefficient) is 0.463, so the regression equation can be written:

Y= a + bX

Y= 61.702+ 0,463X

The equation can be translated as follows:

1) 1) The constant value of 61.702 means that the token economy constant value is 61.702.
2) 2) The regression coefficient of X, 0.463, indicates that if the token economy value is increased, the decrease in disruptive behavior will increase by 0.463. This regression coefficient is positive, indicating that the direction of the X variable's influence on the Y variable is positive.
   T-table = (α/2: n-k-1)
   = (0.05/2:11-1-1)
   = (0.025:9) [See the distribution of t-table values]
   = 2.2622
   Decision Making in Simple Regression Tests Based on the significance value from table 4.14, the coefficients obtained a significance value of 0.000 < 0.05, so it can be concluded that the token economy (X) influences the reduction of disruptive behavior (Y).
3) Based on the t value, the calculated value is 8.611 > t table 2.2625, so it can be concluded that the token economy (X) influences the reduction of disruptive behavior (Y).

3.2 Discussion

The findings of this study demonstrate that the implementation of the token economy program effectively reduced disruptive behavior among children aged 4–5 years at Charis Early Childhood Education (PAUD). During the pretest, most children frequently displayed disruptive behaviors, including talking without permission, leaving their seats without authorization, arriving late, arguing with peers, lying, shouting, and other behaviors that disrupted the learning process. These findings indicate that many children had not yet developed consistent self-regulation and classroom discipline, which are essential for effective participation in learning activities. One possible explanation is that classroom management previously relied primarily on verbal instructions and reprimands, with limited use of systematic positive reinforcement to encourage appropriate behavior.

The interview results with classroom teachers support this interpretation. Teachers reported that disruptive behaviors were generally managed through verbal warnings,

reprimands, and direct correction whenever inappropriate behaviors occurred. Although these strategies may temporarily stop undesirable behaviors, they often fail to strengthen desirable behaviors because children receive little positive reinforcement when they comply with classroom expectations. According to behaviorist learning theory, behaviors followed by positive consequences are more likely to be repeated. Therefore, rather than focusing solely on correcting inappropriate behaviors, reinforcing appropriate behaviors through systematic rewards provides children with a clear understanding of the behaviors expected in the classroom.

The token economy intervention introduced in this study addressed this limitation by providing immediate and tangible positive reinforcement whenever children demonstrated appropriate classroom behavior. Children received token stickers each time they complied with the agreed classroom rules and independently placed the stickers on a Styrofoam token board. This visual and concrete reinforcement system was developmentally appropriate for young children, who generally respond better to tangible rewards than to abstract reinforcement. The opportunity to observe their accumulated tokens also increased children's motivation to maintain positive behavior consistently throughout the learning sessions. Consequently, the frequency of disruptive behaviors gradually decreased over the ten intervention sessions.

This behavioral improvement was clearly reflected in individual observations. Several participants, including MB, GAV, MI, ABI, JAS, and GD, initially displayed approximately four to eight disruptive behaviors during each learning session. Following the implementation of the token economy, the frequency of these behaviors decreased substantially to approximately two to three disruptive behaviors per session. These findings suggest that the intervention not only reduced the occurrence of disruptive behaviors but also encouraged children to develop greater self-control and compliance with classroom rules.

The present findings are consistent with the concept of disruptive behavior proposed by Kaplan, Gheen, and Midgley, who describe disruptive behavior as talking out of turn, teasing peers, behaving rudely, leaving one's seat without permission, and engaging in more serious behaviors that interfere with classroom safety and learning. Such behaviors negatively affect both the teaching process and children's social interactions because they interrupt learning activities and reduce opportunities for meaningful engagement in the classroom. Therefore, interventions aimed at reducing disruptive behavior are essential for creating a positive and productive learning environment.

The effectiveness of the token economy observed in this study can also be explained by behavioral reinforcement theory. According to Inastasya (2018), a token economy is a behavior modification strategy in which tokens are delivered immediately after the desired behavior occurs and are later exchanged for meaningful rewards. Immediate reinforcement strengthens the association between appropriate behavior and positive outcomes, thereby increasing the likelihood that the behavior will be repeated. This mechanism is particularly effective for young children because they learn more readily through concrete experiences and direct feedback than through delayed or abstract consequences.

The findings of this study also support previous research conducted by Aulia et al. (2022), which reported that the token economy technique effectively improved students' discipline and encouraged independent task completion. While the previous study focused primarily on improving discipline among school-aged students, the present study extends the evidence by demonstrating that the token economy is equally effective in reducing disruptive behavior among preschool children. Furthermore, this study contributes a practical innovation by adapting the token economy to the developmental characteristics of young children through

the use of a visually attractive Styrofoam token board and colorful token stickers, making the reinforcement process more engaging and meaningful.

The effectiveness of the intervention is further supported by the quantitative findings. The average pretest score was 59.8, whereas the average posttest score increased to 89.3 after the implementation of the token economy program. This substantial improvement indicates that the intervention successfully reduced disruptive behavior and promoted more appropriate classroom behavior among children aged 4–5 years. These findings suggest that the token economy is not merely a reward system but an effective classroom behavior management strategy that helps children develop self-regulation, discipline, and positive social behaviors through consistent positive reinforcement. Therefore, the token economy can be recommended as an effective behavioral intervention for early childhood classrooms to create a more conducive, orderly, and supportive learning environment.

4. Conclusion

The findings of this study indicate that the implementation of the token economy intervention effectively reduced disruptive behavior among children aged 4–5 years. The mean score increased from 59.8 in the pretest to 89.3 in the posttest, indicating a substantial improvement in children's classroom behavior following the intervention. Furthermore, the paired-samples analysis revealed a statistically significant difference between the pretest and posttest scores (Sig. (2-tailed) = 0.000, $p < 0.05$), confirming that the token economy intervention had a significant positive effect on reducing disruptive behavior. These findings suggest that providing immediate and consistent positive reinforcement through a token economy can promote more appropriate classroom behavior and improve children's self-regulation during learning activities.

Despite these promising findings, this study has several limitations. First, the study employed a one-group pretest–posttest design without a control group, limiting the ability to attribute behavioral changes solely to the intervention. Second, the sample size was relatively small and drawn from a single early childhood education center, which may limit the generalizability of the findings to other educational settings. In addition, the intervention was conducted over only ten learning sessions; therefore, the long-term sustainability of the behavioral changes could not be evaluated.

Future research should employ a randomized controlled or quasi-experimental design involving larger and more diverse samples from multiple early childhood education settings. Longitudinal studies are also recommended to examine whether the positive effects of the token economy are maintained over time. Furthermore, future researchers may compare different forms of token economy, including digital and tangible token systems, or investigate the effectiveness of combining token economy with other positive behavior support strategies to further improve children's behavioral outcomes.

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