

IMPLEMENTATION OF BEHAVIOR MODIFICATION TECHNIQUES FOR PERSON WITH INTELLECTUAL DISABILITY TO INCREASE ACTIVITY OF DAILY LIVING

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Abstract

The implementation of behavior modification techniques for persons with intellectual disabilities aims to address specific measurable behaviors that contribute to the improvement of daily living skills (ADLs). An experimental Single-Subject Design (SSD) approach with a quantitative descriptive method, including A-B-A model was used to assess the efficacy of the intervention. The respondent was a persons with intellectual disabilities who receives services at Sentra Terpadu Kartini Temanggung, selected based on recommendations from a team of social workers, psychologists, and dormitory supervisors. Two primary techniques were applied such as modeling and advice giving and instructions. The ADLs was observed first by ADL Barthel Indeks modification test, with an improvement following treatments. The treatment focused on the low fundamental ADLs and were possitively effective at helping the subject overcome their ability to do the basic lives. The outcomes of this study contribute to the establishment of the utilization of behavior modification skills. It is anticipated that the results could be a reference for practitioners in social rehabilitation efforts to increase the fundamental ADLs of persons with intellectual disabilitis based on their capabilities.

Keywords: Behavior Modification Techniques, Activity Daily Living, Persons With Intellectual Disabilities, Single Subject Design.

1. INTRODUCTION

While physical health often dominates public discourse, the importance of functional independence—particularly among persons with intellectual disabilities (ID)—remains underrepresented despite its profound impact on individual well-being and social participation. Intellectual disability is characterized by significant limitations in intellectual functioning and adaptive behavior, including basic activities of daily living (ADLs) such as bathing, dressing, personal hygiene, and toileting. These limitations hinder autonomy and complicate integration into everyday social environments.

In Indonesia, Sentra Terpadu Kartini Temanggung serves as a specialized social rehabilitation center under the Ministry of Social Affairs, providing comprehensive services for persons with intellectual disabilities. Despite the implementation of various therapeutic modalities—cognitive therapy, psychosocial support, and self-care training—

many beneficiaries continue to exhibit low proficiency in essential ADL domains. This persistent gap highlights the need for structured, evidence-based interventions tailored to individual needs.

Behavior modification is a therapeutic approach grounded in learning theory, aiming to reinforce adaptive behaviors and reduce maladaptive ones. Techniques such as modeling and structured instruction (advice giving) have demonstrated efficacy in improving functional skills among individuals with developmental challenges. These methods involve identifying target behaviors, setting measurable goals, applying intervention procedures, and evaluating outcomes.

This study investigates the application of behavior modification techniques to enhance four core ADL skills—bathing, dressing, personal hygiene, and toileting—among residents with intellectual disabilities at Sentra Terpadu Kartini Temanggung. Using a Single Subject Design (SSD) with an A-B-A model, the research evaluates behavioral changes before, during, and after intervention. The findings aim to inform micro-level social work practice and contribute to the development of inclusive, skill-based rehabilitation models.

By translating behavior modification strategies into measurable and replicable interventions, this research offers practical insights for practitioners and policymakers seeking to improve the quality of life and independence of persons with intellectual disabilities. Moreover, the study provides a scalable framework for other rehabilitation institutions across Indonesia to adopt and adapt.

2. RESEARCH METHODOLOGY

This study employed a quantitative approach using a Single-Subject Design (SSD) with an A-B-A experimental model. The design consisted of three phases: the initial baseline (A₁), the intervention phase (B), and the second baseline (A₂). This methodological framework was selected to examine the effectiveness of behavior modification techniques in improving basic ADL skills—specifically bathing, dressing, personal hygiene, and toileting—among persons with intellectual disabilities (ID). Sampling was conducted using purposive sampling based on inclusion and exclusion criteria, with recommendations from social workers, psychologists, and dormitory supervisors. The subject was a female individual with intellectual disability, categorized as imbecile, aged 23 years. Data collection methods included structured observation, interviews, Likert scale assessments, and documentation review. The intervention applied two behavior modification techniques: modeling and advice giving & instructions.

The intervention was administered daily over a two-week period, with each session lasting approximately 1–2 hours. Behavioral changes were tracked using graphical representations of levels, trends, and stability across the three phases. Descriptive analysis was conducted to interpret both quantitative data and qualitative observations. To ensure the validity and reliability of the research instruments, expert validation was conducted by professionals in social work and rehabilitation. Instruments were then retested for

reliability prior to implementation. Ethical considerations were rigorously upheld throughout the study, including informed consent, confidentiality of data, and adherence to the principle of nonmaleficence. This research contributes to the development of evidence-based rehabilitation strategies for persons with intellectual disabilities in Indonesia. It offers a replicable model for social rehabilitation institutions seeking to enhance the adaptive functioning and independence of their beneficiaries through structured behavioral interventions.

3. RESEARCH RESULTS

3.1 Study Area Description

This research was conducted at Sentra Terpadu Kartini Temanggung, a Technical Implementation Unit (UPT) under the Ministry of Social Affairs of the Republic of Indonesia. The center specializes in providing social rehabilitation services for persons with intellectual disabilities (ID), with a strong emphasis on enhancing their adaptive functioning and independence through structured interventions. Sentra Kartini is known for its comprehensive and inclusive rehabilitation approach, which integrates cognitive therapy, psychosocial support, spiritual guidance, and vocational training.

Several strategic factors informed the selection of this site for research. Sentra Kartini offers dedicated facilities such as residential dormitories, therapy rooms, training spaces, and supervised living environments tailored to the needs of persons with intellectual disabilities. The availability of trained professionals—including social workers, psychologists, and instructors—ensured the feasibility of implementing behavior modification techniques in a controlled and supportive setting. The ATENSI program delivered by the center adheres to a holistic, standardized framework that addresses the physical, psychological, and social dimensions of its beneficiaries.

The center's commitment to individualized care and structured skill-building made it an ideal environment for observing behavioral changes and evaluating the effectiveness of intervention strategies. The study was supported by the center's management and staff, who facilitated access to facilities and provided contextual insights into the daily routines and challenges faced by the beneficiaries.

This study involved one research subject selected through purposive sampling, based on recommendations from social workers, psychologists, and dormitory supervisors. The subject met the inclusion criteria and was identified as having low proficiency in basic ADL domains. Below is the profile of the subject:

- Subject (S)
- Gender: Female
- Age: 23 years
- Origin: East Java
- Diagnosis: Intellectual disability, categorized as imbecile

Case background the subject has been a residential beneficiary at Sentra Kartini for over two years. She exhibits significant challenges in performing basic ADLs

independently, including bathing, dressing, personal hygiene, and toileting. Initial assessments indicated low scores across these domains, prompting the need for targeted behavioral intervention

3.2 Intervention Process

This intervention followed a structured A-B-A Single Subject Design (SSD), consisting of three phases: initial baseline (A1), intervention (B), and post-intervention baseline (A2). The study aimed to assess whether behavior modification techniques could improve and sustain basic activity of daily living (ADL) skills in persons with intellectual disabilities (ID). The intervention was conducted over a two-week period at Sentra Terpadu Kartini Temanggung, with daily sessions lasting 1–2 hours. Prior to the intervention, the subject's ADL abilities were assessed using the Barthel Index. From the ten domains evaluated, four ADL skills—bathing, dressing, personal hygiene, and toileting—were identified as having the lowest scores and selected as the focus of the intervention.

3.3 Initial Baseline Phase (A1)

During the A1 phase, the subject's behavior was observed without any intervention to establish a baseline. The Barthel Index revealed a total score of 38, indicating low functional independence. Specific observations included: a) bathing: the subject required full assistance and showed confusion in identifying bathing tools example mistaking shampoo for soap. b) dressing: difficulty in buttoning clothes and selecting appropriate attire; often relied on caregivers. c) personal hygiene: limited understanding of hygiene routines; needed prompts to brush teeth and wash hands. d) toileting: dependent on supervision; lacked awareness of toileting schedules and proper hygiene afterward.

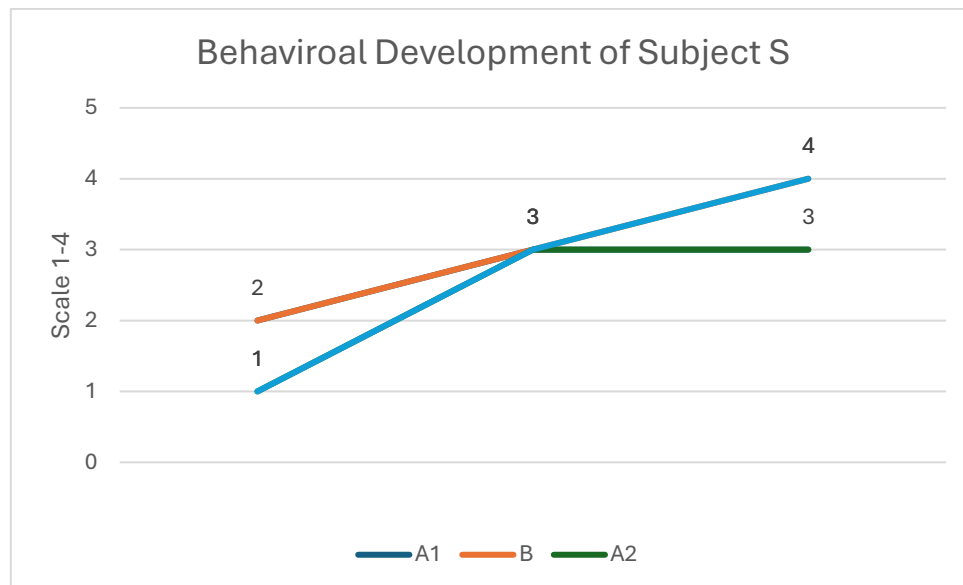
3.4 Intervention Phase (B)

The intervention phase applied two behavior modification techniques: modeling and advice giving & instructions. Each session was tailored to address one of the four ADL domains, using structured routines, visual cues, and verbal reinforcement. Social workers and caregivers played an active role in delivering the intervention consistently. a) bathing: modelling was used to demonstrate correct bathing steps, followed by verbal instructions and praise; the subject began identifying tools correctly and initiated bathing with reduced prompts. b) dressing: step-by-step guidance and repetition helped the subject learn to button shirts and choose appropriate clothing; verbal reinforcement was given for each successful attempt. c) personal hygiene: daily routines were reinforced through visual schedules and reminders; the subject began brushing teeth and washing hands independently. d) toileting: instructions were paired with scheduled practice; the subject showed increased awareness of toileting needs and improved hygiene afterward.

3.5 Post-Intervention Baseline Phase (A2)

Following the intervention, the subject's ADL abilities were reassessed using the Barthel Index. The score increased to 65, indicating a significant improvement in functional independence. Observations showed: a) bathing, the subject bathed independently and used correct tools. b) demonstrated ability to dress without assistance and showed

initiative in choosing clothes. c) personal hygiene, maintained hygiene routines consistently. d) toileting, performed toileting tasks independently with minimal supervision.



The trajectory of behavioral development for Subject S was monitored across three phases—baseline 1 (A1), intervention (B), and baseline 2 (A2)—using graphical representations and Barthel Index scoring. The intervention targeted four core ADL domains: bathing, dressing, personal hygiene, and toileting. Progress of subject S over time:

- Mean scores for bathing, dressing, personal hygiene, and toileting showed substantial improvement during the intervention phase.
- The second baseline (A2) reflected a slight fluctuation in toileting routines due to environmental distractions. However, overall performance in A2 remained significantly higher than in A1, indicating sustained behavioral change.

3.6 Data Analysis

3.6.1 Behavioral Changes

Graphical analysis revealed that Subject S exhibited a high rate of adaptive behavior during the intervention phase. The most notable improvements were observed in bathing and personal hygiene routines, which transitioned from full dependence to near independence. These changes were supported by consistent application of modeling and advice giving & instructions techniques.

The subject's initial Barthel Index score of 38 (low independence) increased to 65 (moderate independence) post-intervention, confirming the effectiveness of the behavioral strategies. The improvement trajectory was steady, with minimal regression during the second baseline phase.

3.7 Sustainability of Changes

During the A2 phase, Subject S was able to maintain most of the adaptive behaviors acquired during the intervention. Daily routines such as initiating bathing and dressing without prompts were consistently observed. This suggests that the behavior

modification techniques used were effective in producing lasting changes, particularly in self-care habits.

However, the study also noted the importance of continued supervision and reinforcement to prevent behavioral decline. The involvement of social workers and caregivers played a critical role in sustaining these improvements.

3.8 Tracking Patterns of Response to Behavioral Modification Strategies

- a. **Modelling and Advice Giving & Instructions:** These techniques were instrumental in guiding the subject through step-by-step routines. Visual demonstrations and verbal cues helped the subject internalize correct procedures for ADL tasks.
- b. **Positive Reinforcement:** Verbal praise and encouragement were used to reinforce successful attempts, especially in dressing and toileting. This method increased the subject's motivation and confidence.

These findings align with the conclusions of Miltenberger (2016) and Martin & Pear (2003), who emphasize the role of structured reinforcement in shaping adaptive behavior. The effectiveness of modeling and instructional techniques also supports the work of Bandura (1977), who highlighted the power of observational learning in behavior acquisition.

The study further confirms that behavior modification techniques can be successfully implemented in social rehabilitation settings to improve the functional independence of persons with intellectual disabilities. While the results are promising, further research is needed to explore long-term sustainability and the role of environmental factors in maintaining behavioral gains.

Based on the outcomes of this study, it is recommended that social rehabilitation programs at Sentra Terpadu Kartini and similar institutions integrate behavior modification strategies as part of a systematic approach to enhance the adaptive capacity of persons with intellectual disabilities.

4. Discussion and Implementations

Behavior modification techniques such as modeling and structured instruction (advice giving) have proven effective in enhancing basic activity of daily living (ADL) skills among persons with intellectual disabilities (ID). The success of the intervention is demonstrated by the significant increase in adaptive behaviors during the intervention phase (B), which were largely sustained throughout the second baseline phase (A2). These findings support the theoretical framework that behavior modification is a practical and associative method for improving functional independence in individuals with developmental challenges.

Skinner (1938) emphasized that positive reinforcement—such as praise or rewards—strengthens the likelihood of a behavior being repeated. In this study, reinforcement was applied through verbal encouragement and structured routines. For example, the subject began initiating bathing and dressing independently after receiving consistent praise and guidance. This aligns with operant conditioning theory, which posits that behaviors reinforced by the environment are more likely to persist.

The modeling technique, as described by Bandura (1977), allowed the subject to observe and imitate correct ADL procedures. This approach was particularly effective in teaching personal hygiene and toileting routines, where visual demonstration played a key role in behavior acquisition. Advice giving and instructions provided step-by-step verbal cues that helped the subject internalize daily routines and reduce dependency on caregivers.

Results indicate a marked improvement in all four targeted ADL domains. The subject transitioned from full dependence (Barthel Index score of 38) to moderate independence (score of 65) post-intervention. These changes were documented through structured observation and graphical analysis, showing consistent upward trends in behavior across phases.

However, the sustainability of these changes varied across domains. While bathing and personal hygiene routines remained stable during A2, dressing and toileting showed minor regressions due to environmental distractions and reduced supervision. This suggests that ongoing reinforcement and caregiver involvement are essential to maintain behavioral gains over time.

The study also identified several implementation challenges. First, the need for continuous monitoring during the post-intervention phase was critical to prevent behavioral decline. Second, the effectiveness of behavior modification depends on the consistency of application. As noted by Miltenberger (2016), interventions must be tailored to individual needs and delivered systematically to achieve lasting results.

Younger individuals with lower baseline skills may require more intensive reinforcement and repetition, while older individuals may benefit from refinement and maintenance of existing abilities. This distinction reinforces the importance of individualized intervention planning, as highlighted in previous studies by Kazdin (2013) and Kneisl (2015).

The findings of this study contribute to the development of inclusive rehabilitation practices in Indonesia. By integrating behavior modification techniques into daily routines, institutions like Sentra Terpadu Kartini Temanggung can enhance the adaptive capacity of persons with intellectual disabilities. The proposed “MOP (Mandiri On Progress)” program offers a structured framework for sustaining these improvements through social casework and groupwork methods.

In conclusion, behavior modification techniques—when applied systematically and contextually—hold significant potential for improving basic ADL skills in persons with intellectual disabilities. While challenges remain, the results affirm the value of these approaches in promoting independence, dignity, and social inclusion. Future research should explore long-term sustainability and the role of community-based reinforcement in maintaining behavioral change beyond institutional settings.

5. Conclusion

This study aimed to implement behavior modification techniques to improve basic activity of daily living (ADL) skills in persons with intellectual disabilities (ID) at Sentra

Terpadu Kartini Temanggung. Using a Single Subject Design (SSD) with an A-B-A model, the intervention focused on four core ADL domains: bathing, dressing, personal hygiene, and toileting. The techniques applied—modeling and advice giving & instructions—were delivered systematically over a two-week period.

The results demonstrated a significant improvement in the subject's ADL performance, with the Barthel Index score increasing from 38 (low independence) to 65 (moderate independence). Behavioral changes were most evident in bathing and personal hygiene routines, which transitioned from full dependence to near independence. Although minor regressions were observed in dressing and toileting during the second baseline phase (A2), the overall gains were sustained, indicating the effectiveness of the intervention.

These findings support the theoretical framework of operant and social learning, particularly Skinner's reinforcement principles and Bandura's modeling theory. The subject's ability to internalize routines and initiate self-care behaviors reflects the potential of behavior modification techniques to foster adaptive functioning in individuals with intellectual disabilities.

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