International Journal of Education, Vocational and Social Science
https://e-journal.citakonsulindo.or.id/index.php/IJEVSS
E-ISSN : 2963 4954
IJEVSS

The Effectiveness Of Shaping Techniques In Reducing Smoking Behavior In A College Student

Nirmaya Luruh Pramulatsih
Universitas Maulana Malik Ibrahim, Indonesia
Syafira Widya Rahmadyanti
Universitas Maulana Malik Ibrahim, Indonesia
Muhammad Jamaluddin
Universitas Maulana Malik Ibrahim, Indonesia

Corresponding Author: *230401110102@student.uin-malang.ac.id*

Abstract

Smoking behavior among college students often serves as a "social glue" within peer groups; however, high and persistent intensity carries the risk of addiction and harmful multidimensional effects. This study aims to test the effectiveness of shaping techniques in reducing the frequency of smoking behavior in a college student with a tendency toward nicotine addiction. The method used was a quantitative single-subject experimental design (Single-Subject Research/SSR) with an A1–B–A2reversal design involving a 21-year-old student (subject FQ). Data collection was conducted over 20 naturalistic observation sessions using event recording techniques through non-participant direct observation, supplemented by semi-structured interviews as supporting data. Data analysis employed visual analysis techniques within conditions and between conditions. The results indicated a significant clinical reduction, with the subject's average daily cigarette consumption decreasing from 12.6 cigarettes during the initial baseline phase (A1) to 11.2 cigarettes during the first intervention phase (B1), 8.8 cigarettes during the second intervention phase (B2), and stabilized at a low level with an average of 7.4 cigarettes during the final baseline phase (A2). The presence of a peer group was found to act as a discriminative stimulus (SD) that triggered a spike in consumption; however, the use of successive approximations successfully built the subjects' self-control. The persistence of smoking frequency at a low level during the withdrawal phase (A2) demonstrates behavioral maintenance through the internalization of intrinsic reinforcers. Thus, shaping techniques are significantly effective in

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

reducing students' smoking frequency and facilitating lasting behavioral change

Keywords: Smoking Behavior, College Students, Shaping, Single-Subject Research

INTRODUCTION

Social learning research has increased dramatically in recent years, thanks in part to fruitful encounters between conceptual and empirical strategies. This is combined with a unique emphasis on learning techniques that place the learning process within an approach of decision-making analysis. Recognizing why, when, and how humans learn from others is a major challenge, but it is crucial in many different fields of study (Boyd et al., 2016). The constructivist model suggests that understanding can only occur within the human brain. It does not have to correspond to any fact. Students would be constantly attempting to construct their possible mental aspect of the entire globe based on their perceptions of it. Students will keep updating their thought processes to represent new knowledge as they recognize each novel experience, and will thus build their perception of reality.

As a group of individuals in the young adult age range, college students face various demands and complex developmental dynamics in academic, social, and personal spheres. From a developmental psychology perspective, Arnett (2000) categorizes this college period as the "emerging adulthood" phase a transitional period from adolescence to adulthood typically occurring between the ages of 18 and 25. During this critical period, individuals begin actively exploring their self-identity and determining the direction of their lives through goalsetting, the internalization of new values, and the alignment of future expectations related to education, career, and interpersonal relationships. This transitional phase is a period filled with both significant opportunities and challenges, where students are required to adapt to a new environment, make important decisions independently, and manage increasing psychosocial pressures (Qolbi et al., 2020). The intensive process of self-exploration during this phase often leaves individuals preoccupied with seeking new experiences, which frequently leads to instability in romantic relationships, careers, and education. As a result, college students often find themselves in an ambivalent position; they do not yet consider themselves fully adult, yet no longer feel like teenagers, while continuing to navigate the process of understanding who they are, what they want in life, and weighing various future possibilities (Iqomah et al., 2021).

Amid the various pressures, instability, and complexities of the process of adapting to the college environment, one form of behavior that frequently emerges is smoking. Smoking among

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

students is no longer merely experimental in nature but has evolved into a recurring habit and, in some cases, leads to addictive tendencies. This is evident from the intensity of smoking, the timing of use, and the role of cigarettes in an individual's life, indicating that smoking has become part of a relatively established behavioral pattern (Ardiansyah & Efendi, 2021). The urgency of this issue is underscored by the 2023 Indonesian Health Survey (SKI) data from the Ministry of Health, which notes that the number of active smokers in Indonesia has surpassed 70 million people, with the 15–19 age group accounting for the largest percentage of smokers at 56.5%. The phenomenon of high smoking rates in this age group is supported by the findings of ", which indicates that 70.4% of male adolescents in the productive age range of college students (15–24 years) are active smokers, with those aged 20– 24 having a twofold higher risk (AOR = 2.26) of persistent smoking.

Smoking behavior among college students cannot be separated from the influence of the social environment. Interactions with peers, group norms, and social circles that are permissive toward smoking are factors that play a role in the formation and maintenance of this behavior. Individuals often begin smoking as a form of social adjustment to their peer group, aiming to gain acceptance and avoid social rejection (Ramadhani et al., 2023). In the reality of student life, activities such as gathering, discussing, or simply "hanging out" with peers around campus often serve as cultural spaces that perpetuate this behavior. Cigarettes often serve as a "social glue" that lightens the mood and facilitates conversation, so smoking intensity frequently spikes dramatically when students are in such interpersonal situations. This aligns with Smet's study, which states that smoking behavior among close friends is the strongest determining factor controlling an individual's smoking habit (D. R. Putri et al., 2024). Furthermore, individuals within social circles that encourage smoking have up to a fivefold higher risk (AOR = 5.60) of maintaining this addictive behavior due to the principle of homophily a strong tendency to associate with and imitate the actions of groups sharing similar habits (D. R. Putri et al., 2024). In the process, this behavior is reinforced through repeated experiences that produce specific psychological effects, such as a sense of comfort or relaxation, making it increasingly difficult to quit. Thus, smoking behavior is not only influenced by individual factors but is also the result of a complex interaction between social and psychological factors (Ardiansyah & Efendi, 2021).

The impacts of smoking extend beyond physical health to include psychological and academic aspects. Physically, smoking is known to contribute to various serious diseases, such as respiratory system disorders, cardiovascular diseases, and cancer (Ardiansyah & Efendi, 2021). Globally, The Tobacco Atlas report even ranks Indonesia third in the world for the highest number of smokers. The medical risks of this habit are extremely deadly; data from the Institute for Health

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Metrics and Evaluation show that tobacco cigarette consumption significantly increases the risk of tracheal, bronchial, and lung cancer by 59.6%, triggers chronic obstructive pulmonary disease by 59%, heart disease by 28%, and contributes 19% to the risk of diabetes mellitus. Meanwhile, from a psychological and academic perspective, smoking behavior can affect concentration, reduce motivation to learn, and increase the likelihood of other maladaptive behaviors (Ardiansyah & Efendi, 2021). This situation indicates that smoking behavior is a multidimensional issue requiring an approach that focuses not only on abruptly stopping the behavior but also on a gradual and sustained process of behavioral change (Ardiansyah & Efendi, 2021).

From a behavioral psychology perspective, smoking behavior can be understood as the result of a learning process through reinforcement mechanisms. Individuals tend to maintain behaviors that yield pleasant consequences or reduce discomfort. Therefore, one relevant approach to addressing smoking behavior is shaping techniques. Shaping is a method of forming new behaviors by systematically reinforcing responses that approach the target behavior. Behavioral change is achieved gradually through a series of small steps until the individual reaches the desired behavior (Sulastri & Astuti, 2023). This approach is considered effective because it allows individuals to adapt gradually without the pressure of overly drastic changes.

The effectiveness of shaping techniques in modifying various forms of behavior has been empirically demonstrated in a number of single-subject studies. Research findings by Ulfah & Daengsari (2019) show that shaping techniques can significantly increase the duration of positive behavior through the gradual provision of reinforcement for behavior that approximates the target. The application of this technique has also proven effective in gradually building individuals' independence and self-management skills by breaking down complex behaviors into smaller, more manageable steps (Putri & Wicaksono, 2024). Furthermore, research by Khotimah et al. (2021) using an A1-B-A2design confirmed that shaping-based interventions are systematic in producing stable performance changes, where the positive effects of the intervention persist even after the formal treatment phase has ended. These findings underscore that shaping techniques possess high flexibility and effectiveness in reducing maladaptive behaviors and systematically reinforcing new adaptive behaviors. Furthermore, in the context of addictive behavior, research indicates that shaping techniques can be used to reduce smoking behavior through a structured intervention process, in which an individual's behavior is gradually modified until a more adaptive state is achieved (Ardiansyah & Efendi, 2021. Nevertheless, studies on the application of shaping techniques to reduce smoking behavior still have limitations. Most previous studies have primarily focused on child or adolescent populations within formal educational settings and have more

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

frequently been associated with conformity behavior or learning behavior. Research specifically examining the application of shaping techniques on college students with a tendency toward cigarette addiction remains relatively limited. Additionally, existing studies generally employ a group design, thus failing to deeply explore the dynamics of behavioral change in specific individuals. However, smoking behavior is deeply tied to daily habituation and unique environmental stimulus control specific to each individual, so group-based approaches often overlook fluctuations in the subject's adaptation process. This situation indicates a research gap that requires further investigation, particularly regarding the effectiveness of shaping techniques in the context of college students with addictive smoking behavior.

Based on the above, this study aims to examine the application of shaping techniques in reducing smoking behavior in a college student with a tendency toward cigarette addiction through intensive monitoring based on a single-subject design. This study is expected to provide empirical contributions to the development of more context-specific behavior-based interventions, particularly in demonstrating how addictive behavior can be gradually reduced through daily target control. Additionally, this study is also expected to serve as a foundation for developing more effective guidance and counseling services in addressing addictive behavior within the university setting.

METHODOLOGY

This study employs a quantitative method with an experimental approach. Quantitative methods are research methods used to investigate a phenomenon through the collection of numerical data, which is then systematically analyzed using statistical techniques or quantitative analysis (Fadilla et al., 2023). In this study, the researcher provided an intervention in the form of limiting daily cigarette consumption targets to observe changes in the amount of cigarette consumption among the research subjects.

The research design used is Single Subject Research (SSR) with an A1-B-A2pattern. Single Subject Research is an experimental research method that focuses on a single individual as the research subject to observe behavioral changes before, during, and after the intervention is administered. SSR does not compare between groups or individuals but rather compares the subject's behavioral conditions at different times, specifically during the baseline and intervention phases (Yuwono & Novitasari, 2025).

The A1–B–A2 design in this study consists of three phases: initial baseline (A1), intervention (B), and final baseline (A2). The study involved 20 observations. The first five

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

observations were conducted during the initial baseline phase (A1) to determine the subjects' baseline behavior prior to treatment. Subsequently, ten observations were conducted during the intervention phase (B), which was implemented in two stages of reducing the target cigarette consumption. In the first stage, subjects were given a maximum target of 13 cigarettes per day, determined based on the average daily consumption during the initial baseline phase. In the second stage, the cigarette consumption target was reduced to 10 cigarettes per day based on the lowest consumption level the subject was able to achieve during the first intervention stage. After that, the final five observations were conducted under the final baseline conditions (A2) to observe changes in the subject's behavior after the intervention was discontinued.

The subject of this study was a 21-year-old student with the initials FQ, currently enrolled in the 6th semester at the Faculty of Psychology, UIN Maulana Malik Ibrahim Malang, who had a habit of smoking. The study was conducted around the campus environment and places where the subject usually gathered or spent their free time. The study was adapted to the subject's daily activities to ensure that the observation conditions occurred naturally.

The data collection techniques used in this study were observation and interviews. According to Sugiyono (2019), data collection is the method researchers use to obtain the data required for the study. The observation employed was non-participant direct observation, meaning the researcher directly observed the subject's smoking behavior without participating in the subject's activities. Observation is a data collection method conducted through systematic observation of an individual's behavior in a specific situation (Adler & Adler, 1987/2011). Observations were conducted repeatedly at each phase of the study: the initial baseline (A1), the intervention (B), and the final baseline (A2).

In addition to observation, the researcher also used semi-structured interviews as supplementary data to obtain more in-depth information regarding the subjects' smoking habits and the factors influencing such behavior. Interviews were conducted using flexible question guidelines, allowing the researcher to explore information more deeply according to the subjects' conditions. Interviews are a data collection technique conducted through a direct or indirect question-and-answer process with respondents (Rahmawati et al., 2024).

The data collection tools used were observation sheets and daily records of the subjects' behavior. Data recording was conducted using the event recording technique, which involves counting the frequency of specific behaviors during the observation period. In this study, the behavior observed was the subject's daily cigarette consumption throughout the research period. Additionally, the researcher documented specific situations that could influence the subject's

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

smoking behavior, such as activities with peers.

Data analysis in this study employed quantitative descriptive analysis with graphical visualization techniques commonly used in Single Subject Research (SSR). The obtained data were presented in graphical form to observe changes in the subject's behavior across each phase of the study. The analysis was conducted based on the direction of data changes, data trends, stability levels, and comparisons of results between the initial baseline (A1), intervention (B), and final baseline (A2).

RESULTS AND DISCUSSION

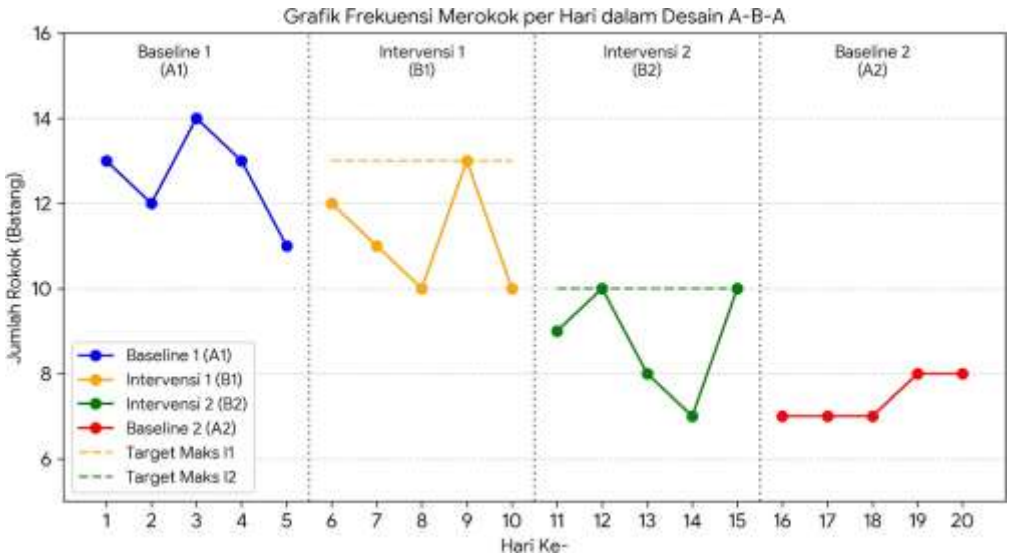
This study employed a single-subject research (SSR) experimental method with a reverse A1-B-A2design to test the effectiveness of shaping techniques in reducing the frequency of smoking behavior in subject FQ. This design systematically compares the subject's natural condition before treatment (initial baseline / A1), during the experimental manipulation (intervention phase / B), and after the intervention is withdrawn (final baseline phase / A2). This design was chosen because it possesses strong internal validity in demonstrating the functional relationship between the independent variable (shaping intervention) and the dependent variable (daily smoking frequency) through the systematic administration and withdrawal of the intervention.

The experimental series was conducted through 20 daily naturalistic observation sessions tailored to the daily activities of the FQ subjects in the campus environment. The observation sessions were divided into phase A1 (5 sessions, to determine the subjects' baseline behavior prior to intervention), and intervention phase B, which was divided into two stages of gradual reduction in the target daily cigarette quota (10 sessions, consisting of Maximum Target I1 of 13 cigarettes per day, determined based on the average daily cigarette consumption during the initial baseline phase, and Maximum Target I2 of 10 cigarettes per day, determined based on the lowest consumption level the subject was able to achieve during the first intervention stage), and Phase A2 (5 sessions, to observe changes in the subject's behavior after the intervention was discontinued). To provide a comprehensive and accurate analysis, the evaluation did not rely solely on rough visual impressions but utilized within-condition and between-condition visual analysis techniques, including estimates of trend direction, stability, clinical effect (mean), and overlap. All of this quantitative data was triangulated with qualitative data from direct observations and semi-structured interviews to reveal the dynamics of the subjects' behavior as follows:

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

International Journal of Education, Vocational and Social Science
https://e-journal.citakonsulindo.or.id/index.php/IJEVSS
E-ISSN : 2963 4954
IJEVSS

Figure 1. Daily Smoking Frequency in the A-B-A Design



Phase A1lasted for five sessions to record the subjects' natural smoking behavior patterns before the experimental manipulation was administered. Based on Figure 1, the cumulative frequency of cigarette consumption in this phase reached 63 cigarettes with a mean of 12.6 cigarettes per day. The trend line in this phase shows a fluctuating pattern but tends to remain at a high level. The highest consumption peak occurred on day 3 at 14 cigarettes. Based on direct observations around the campus environment, subject FQ's cigarette consumption always increased drastically when he was in the parking lot or the coffee shop behind the campus with his friends. In such situations, smoking is done in a chain (chain smoking) while chatting. This is reinforced by the results of an interview with FQ at the end of the baseline phase, who stated:

"When I'm hanging out waiting for class or after class, my hand automatically reaches for a cigarette. It feels awkward to just sit there alone while others are smoking; the conversation just doesn't feel as fun."

Through stability analysis using a 15% criterion zone, data showed that the initial baseline fell within the stable category because all data were within the tolerance range. This stable and high baseline condition provided both operational justification and a valid foundation for setting adaptive targets (shaping steps) in the subsequent intervention phase

Entering the first intervention phase (B_1), namely the application of the initial shaping technique, the intervention began on day 6 by setting a maximum cigarette consumption target

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

of 13 cigarettes per day (Max Target I1). During the five days of this phase, the subject demonstrated optimal compliance with a success rate of 100% against the set target. Quantitatively, there was a reduction in clinical effects, with the average cigarette consumption during phase B_1successfully reduced to (11.2) cigarettes per day. However, on day 9, the subject's consumption experienced a rebound, reaching the maximum threshold (13 cigarettes). Observations noted that this spike on day 9 coincided with a peer group gathering that lasted until late at night. FQ acknowledged in an interview that he experienced an internal struggle:

"That night was really tough because my friends kept offering me cigarettes. Luckily, I remembered the daily target we'd agreed on, so I tried to hold back and count every cigarette I smoked to make sure I didn't go over 13."

Based on the analysis of the level change from phase A_1 to B_1, there was an increase of (+1) unit from the last data point in phase A_1(11 cigarettes) to the first data point in phase B_1 (12 cigarettes). However, the data trend during the intervention phase still showed a decrease in average smoking behavior compared to the initial baseline phase, with a low level of data overlap between the two phases.

As a key characteristic of the shaping technique, which requires the gradual fulfillment of targets (successive approximations), the maximum consumption limit was again lowered to a stricter level in the 11th session, namely 10 cigarettes per day (Max Target I2), derived from the lowest cigarette consumption during phase (I1). The recorded results indicate a positive and progressive behavioral adaptation process. The subjects' average daily cigarette consumption in phase B_2again decreased significantly to (8.8) cigarettes per day. Observations revealed that the subjects had a packed class schedule from morning to afternoon and spent their free time in the library a smoke-free area (stimulus control). FQ confirmed this in an interview:

"When my class schedule is packed and I choose to study at the library, the urge to smoke disappears because the environment isn't conducive to it."

The dynamics of fluctuations during this phase demonstrate a strong interaction between environmental stimulus control and the reinforcement schedule. The subject successfully reached the lowest consumption point throughout the intervention, namely 7 cigarettes on day 14, which coincided with a more structured academic routine. Conversely, the frequency of smoking returned to its maximum limit (10 cigarettes) on days 12 and 15 when the subject was faced with social situations involving a peer group gathering. This phenomenon indicates that the presence of a peer group acts as a discriminative stimulus S^D or a strong antecedent that triggers the smoking response. Nevertheless, contingency management in the

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

form of reinforcement both tangible and social inherent in shaping techniques proved effective as a moderator variable that prevented subjects from exceeding the targeted behavioral threshold.

The most crucial part for proving the effectiveness of this intervention lies in the final baseline phase A2 or the withdrawal phase. During sessions 16 through 20, all forms of formal targets, external recording, and reinforcement from the researcher were completely withdrawn. The purpose of this phase is to determine whether the established behavioral changes can persist independently without intervention (maintenance effect). Visual data show consistent results regarding the sustainability of behavioral changes, where the subjects' smoking frequency did not relapse or return to the high levels seen in the initial baseline phase. Conversely, the subject's smoking behavior demonstrated high stability at a low level, remaining constant at 7 cigarettes during the first three sessions (days 16, 17, and 18) and shifting only slightly to 8 cigarettes in the final two sessions, with an overall average of (7.4) cigarettes per day. Periodic observations during this phase revealed significant changes in FQ's habits when socializing with friends; he now frequently substitutes smoking with chewing gum or holding a drink cup to redirect his hand movements. During the final interview session of the study, FQ stated:

"At first, when the target was removed, I was afraid I'd go overboard again. But it turns out I've gotten used to counting and limiting myself. Now when I hang out, I feel like I don't have to join in lighting a cigarette during every conversation. My body also feels lighter when I don't smoke so much."

The change in levels from the final intervention phase B2 to the final baseline phase A2indicates a stable, flat trend at a low level with minimal data overlap with the initial baseline phase A1. The persistence of smoking frequency at this low level provides empirical evidence that the intervention administered has a lasting therapeutic effect.

The significant reduction in smoking frequency among subjects from an average of 12.6 cigarettes in phase A1 to 7.4 cigarettes in phase A(2) can theoretically be explained through B.F. Skinner's principles of Operant Conditioning, specifically the shaping mechanism (behavioral shaping). Shaping works by systematically providing differential reinforcement) for successive approximations of the desired target behavior. In the context of this study, the researcher did not immediately require the subjects to quit smoking abruptly (cold turkey), but rather gradually reduced the cigarette quota, specifically from a maximum of 13 cigarettes in phase B1to a maximum of 10 cigarettes in phase B2. This gradual approach minimizes the occurrence of the

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

extinction burst effect a surge of frustration or anxiety resulting from the sudden loss of a reinforcing behavior and reduces psychological nicotine withdrawal symptoms, thereby enabling subjects to adjust their self-regulation capacity without significant psychological pressure.

The most important finding in this study is the persistence of smoking behavior at a lowlevel during phase A2even though the formal intervention had been discontinued. Based on operant conditioning theory, this phenomenon of behavioral maintenance occurs because the subjects have undergone a process of internalized learning. Through the gradual modification of targets, the subjects are indirectly trained to develop new coping strategies and build self-efficacy in controlling their smoking behavior, even when in informal social situations that previously served as the primary triggers for smoking. When external reinforcers from the researcher are withdrawn, they are replaced by natural reinforcers from within the subject, such as improved health perceptions, reduced financial expenses, and the emergence of a sense of self-control. It is this effect of internal reinforcement that keeps the subject's new behavior stable and resistant to relapse, thereby proving that shaping techniques are effective not only in modifying short-term behavior but also in facilitating the formation of new, more adaptive, and enduring habits (enduring behavioral change)

CONCLUSION

Based on the results of visual analysis of quantitative data graphs and the triangulation of qualitative data from direct observations and field interviews, it can be concluded that the application of effective *shaping* techniques significantly reduces the frequency of smoking behavior among active student smokers. Through the gradual and systematic modification of behavioral targets (*successive approximations*), the FQ subjects were proven capable of progressively regulating their smoking habits. This is demonstrated by a consistent clinical reduction, where the subjects' average daily cigarette consumption decreased from 12.6 cigarettes in the initial *baseline* phase (A 1) to 11.2 cigarettes during the first intervention phase (B1), and further decreased to 8.8 cigarettes during the second intervention phase (B2).

The most crucial evidence regarding the effectiveness of this intervention lies in the final *baseline* phase (A2). After all forms of formal targets and external reinforcement from the researchers *were* completely *withdrawn*, the subjects' smoking frequency did not experience *a relapse* but remained stable at a low level with a daily average of 7.4 cigarettes. Theoretically, the stepwise approach in this *shaping* technique successfully minimized the emergence of

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

psychological frustration caused by a sudden reduction in the smoking quota (*extinction burst*). Although social interactions with the *peer group* temporarily acted as *a discriminative stimulus* (S^D) that triggered a situational surge in consumption up to the maximum threshold, the subjects successfully maintained self-control. The success of this short-term behavioral change can be sustained because the subjects have undergone a process of internalized learning, in which external *reinforcers* from the researchers have been replaced by *natural reinforcers* from within, such as improved perceptions of physical health, financial efficiency, and the emergence of *a sense of self-control.*

RECOMMENDATIONS

Based on the findings and limitations of this study, several theoretical suggestions are proposed for the development of future research in the field of behavior modification. Given that this study employed *a single-subject research* design, which focuses deeply on a single individual and thus has limitations regarding the generalizability of results, future researchers are advised to replicate a similar design across multiple subjects simultaneously, for example by applying *a Multiple Baseline Across Subjects Design*, to enhance the external validity of the findings. Additionally, future researchers are strongly advised to combine daily motor behavior recording (*event recording*) with objective physiological or medical measurement tools, such as urine cotinine level tests or *carbon monoxide (CO) breath monitors*, to validate the reduction in addictive substance levels within the subject's body more accurately and clinically. Future researchers should also consider adding *a* follow-up phase spanning several weeks or months after the final baseline phase concludes, aimed at assessing the level of resilience and long-term stability of *the behavioral maintenance* established in the subjects.

In practical terms, the findings of this study are expected to serve as a practical reference for guidance and counseling services within higher education institutions. Campus counselors can integrate this behaviorist-based *shaping* technique as a structured and adaptive self-management intervention model for students who are highly dependent on cigarettes but find it difficult to quit the habit abruptly (*cold turkey*). For students who have a personal intention to reduce their cigarette consumption, this *shaping* principle can be adopted independently through *self-*management strategies. This approach can be implemented by setting realistic and gradual targets for reducing daily cigarette quotas, while combining it with *stimulus* control techniques, such as consciously choosing to spend free time in smoke-free areas like libraries or reading rooms, to break the chain of environmental triggers from peer groups.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

REFERENCES

Adler, P. A., & Adler, P. (2011). *Membership roles in field research*. Sage Publications. https://doi.org/https://dx.doi.org/10.4135/9781412984973 (Original work published 1987)

Ardiansyah, M., & Efendi, J. (2021). The Effectiveness of Shaping Techniques in Reducing Smoking Behavior Among Children with Mild Intellectual Disabilities at SLB N Madina. *Journal of Basic Education Studies*, *4*(1), 1469–1477.

Arnett, J. J. (2000). Emerging adulthood. A theory of development from the late teens through the twenties. *The American Psychologist*, *55*(5), 469–480.

Fadilla, Z., Taqwin, Ketut, M., Ardiawan, N., Eka, M., Ummul, J., Zaini, P., Abdullah Lawang, K., & Jannah, M. (2023). *Quantitative Research Methodology*.

Iqomah, I., Meyritha, M., & Yoga, Y. (2021). A Portrait of the Quarter-Life Crisis in Emerging Adulthood. *Journal of Applied Psychology*, *4* (2), 93–101. https://doi.org/10.29103/jpt.v4i2.10205

Khotimah, C., Wahyuni, E. N., Permatasari, D., & Latifah, L. (2021). Efforts to Improve Students' Learning Independence Using Shaping Techniques. *JKI (Indonesian Counseling Journal)*, *7* (1), 1–6. https://doi.org/10.21067/jki.v7i1.6569

Putri, D. R., Astutik, E., Machmud, P. B., & Tama, T. D. (2024). Male adolescents' (Aged 15–24 years) smoking habit and its determinants: Analysis of Indonesia Demographic and Health Survey data, 2017. *African Health Sciences*, *24* (4), 362–372. https://doi.org/10.4314/ahs.v24i4.45

Putri, Y. A., & Wicaksono, A. S. (2024). Application of Shaping Techniques to Enhance the Independence of Students at Muhammadiyah 1 GKB Elementary School. *Journal of Psychology and Counseling West Science*, *2* (04), 226–232. https://doi.org/10.58812/jpkws.v2i04.1670

Qolbi, F. H., Musthofa, A., & Chotidjah, S. (2020). The Emerging Adulthood Period for Students: Anxiety about the Future, Subjective Well-being, and Islamic Religiosity *Psikoislamika: Journal of Psychology and Islamic Psychology*, *17* (1), 44–45. https://doi.org/10.18860/psi.v17i1.8821

Rahmawati, A., Halimah, N., Karmawan, K., & Setiawan, A. A. (2024). Optimizing Interview Techniques in Field Research Through Training Based on Participatory Action Research Among Students at the Tangerang Class IIA Youth Correctional Facility. *Jurnal Abdimas Prakasa Dakara*, *4* (2), 135–142.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

https://doi.org/10.37640/japd.v4i2.2100

Ramadhani, N. S., Larasati, D. A., Niswatin, N., & Imron, A. (2023). Social Construction of Adolescent Smoking Behavior Among Eighth-Grade Students at SMPN 58 Surabaya. *Jurnal Dialektika Pendidikan IPS*, *3* (2), 76–86. https://doi.org/10.26740/penips.v3i2.54460

Sugiyono, S. (2019). *Quantitative, Qualitative, and R&D Research Methods* (2nd ed., 1st impr.). ALFABETA.

Ulfah, D. M., & Daengsari, D. P. (2019). The Effectiveness of a Behavior Modification Program Using Shaping Techniques to Increase the Duration of On-Task Behavior in Academic Tasks. *Journal of Psikogenesis*, *7* (1), 54–66. https://doi.org/10.24854/jps.v7i1.877

Yuwono, I., & Novitasari, S. (2025). *DESIGN SINGLE SUBJECT RESEARCH (Alternative Research Methods in Special Education)*. CV BRAVO PRESS INDONESIA

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License