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Contribute of Behaviorism: Optimizing Skinner's Principles for Prosocial Character and SDG 16 in Primary Education

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Abstract

The problems of deviant behavior and low discipline among elementary school students remain a challenge in creating a conducive learning environment. Most previous studies have focused more on cognitive aspects, while the dimension of prosocial character and its contribution to Sustainable Development Goals (SDGs) 16 has not been widely studied. This study aims to analyze the application of reinforcement principles (positive and negative reinforcement) and shaping behavior in shaping the discipline and prosocial behavior of elementary school students, as well as to explain its contribution to the achievement of SDG 16 through peaceful and inclusive education. This study uses a qualitative approach with a library research method. Data were obtained from various academic literature such as reputable journals, books, and research reports relevant to B.F. Skinner's operant conditioning theory. Data analysis was conducted using descriptive qualitative methods through the stages of reduction, categorization, and interpretation of literature to find patterns of correlation between behavioral reinforcement and character building in students. The results showed that consistent reinforcement increased students' intrinsic motivation, self-discipline, and social responsibility, while shaping behavior played a role in gradually forming prosocial behavior. The new findings from this study produced a conceptual model of Behaviorism-Contributive, which is the integration of Skinner's theory with social-emotional values relevant to the context of Indonesian primary education. Theoretically, this model broadens the neo-behavioristic perspective in education, while practically, it can be used as a reference for teachers and educational institutions to create a peaceful, inclusive, and equitable learning ecosystem in line with SDG 16.

Keywords: behaviorism, reinforcement, shaping behavior, student character, SDGs 16.

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INTRODUCTION

Elementary schools play a fundamental role in shaping students' cognitive abilities and character by instilling values of discipline, responsibility, and good social behavior. However, both globally and domestically, the challenge of student misbehavior has become a critical issue that disrupts the effectiveness of learning. A comprehensive report by Valiente et al. (2020) highlights that emotional

socialization in the classroom, which includes behavior regulation, is greatly influenced by teacher-student interactions and peer dynamics. When this regulation fails, problems such as lack of compliance with rules, disruptive behavior (e.g., off-task behavior), and lack of prosocial initiative become major obstacles. These conditions create a less conducive learning atmosphere and hinder students' social and academic development.

This fact is supported by studies in the Indonesian context that show low student awareness of school regulations (Zabrina, 2024), while in other regions, such as Asia and Africa, similar problems have been found in the form of mild aggression, classroom noise, and low learning perseverance (Peras et al., 2023). It is important to emphasize that these issues are not merely matters of discipline, but rather a reflection of the failure to develop prosocial character and self-regulation, which are the foundations of a civilized society. This condition shows that the development of discipline and prosocial behavior at the elementary level requires an evidence-based approach and effective pedagogical strategies.

One of the most relevant and proven effective approaches to overcoming these behavioral challenges is B.F. Skinner's behaviorism theory, particularly the concept of operant conditioning. The principles of reinforcement and shaping behavior allow teachers to systematically reinforce positive behaviors such as obedience, responsibility, and cooperation through the provision of appropriate consequences. Empirically, positive reinforcement (e.g., praise or rewards) and negative reinforcement (removal of unpleasant consequences) have been shown to increase learning motivation and reduce disruptive behavior (Chen, 2023; Rafi et al., 2020).

Although numerous studies demonstrate the effectiveness of this theory, most research still focuses on improving academic achievement or reducing simple negative behaviors. There is a significant gap in the literature linking behaviorism to: 1) the formation of complex prosocial character, and 2) its contribution to the global agenda, particularly Sustainable Development Goal (SDG) 16 (Peace, Justice, and Strong Institutions), which calls for the instillation of inclusive and non-discriminatory values from an early age.

Based on this background, this study aims to identify and analyze the application of reinforcement principles (positive and negative reinforcement) and behavior shaping in the formation of discipline and prosocial behavior in elementary school students, as well as to explain its contribution to the achievement of SDG 16 through peaceful, inclusive, and equitable education.

METHODS

This section should have the meaning of the state of the art of science and technology, the sophistication of viewpoints and approaches, the potential acquisition of novelties, new to science, and completeness of work, not only repeating previous research of the same type, but also not mutating methods and objects.

This study adopts a qualitative approach using library research methods. This method was chosen based on the research objectives, which are to describe the pattern of application of Skinner's behaviorism theory in the formation of prosocial character and to examine its contribution to the achievement of SDG 16. The library research method allows researchers to construct a Contributive Behavioristic Conceptual Model through in-depth synthesis and reinterpretation of B.F. Skinner's classic operant conditioning theory in the context of contemporary issues. The main data collection technique was the search and documentation of credible academic literature, including Theoretical Primary Sources (Skinner's fundamental works) and Empirical Secondary Sources (reputable journals and recent research reports on the application of behaviorism in education).

Data analysis was conducted using qualitative descriptive techniques involving three systematic stages. The first stage was Data Reduction, which involved sorting the literature to focus the study on the relationship between reinforcement and shaping with behavioral outcomes (character) and social contributions. The second stage, Data Presentation (Categorization), grouped the findings to identify common patterns of application (effective positive reinforcement) and patterns of the relationship between behaviorism mechanisms and the development of prosocial character and support for SDG 16. The final stage, Drawing Conclusions (Conceptual Synthesis), formulates a holistic interpretation of these patterns to produce a Conceptual Behavioristic-Contributive Model as an original finding. The validity of this literature study's results is established through two techniques: Source Triangulation (comparing the consistency of findings across studies as an indicator of internal validity) and Credibility Audit Trail (ensuring the selection of literature from reputable journals and the traceability of the data synthesis process).

RESULTS

This study presents comprehensive findings from a synthesis analysis of the application patterns of B.F. Skinner's principles of operant conditioning, namely reinforcement and behavior shaping, as the main pedagogical mechanisms in the context of elementary schools. This synthetic analysis directly resulted in the identification of patterns divided into two main areas: discipline formation and prosocial character internalization, which led to the formulation of a new conceptual model as an original finding.

The first pattern is the relationship between the Reinforcement Pattern and the improvement of students' Intrinsic Discipline. The analysis shows that the systematic application of reinforcement must include two integrated components. First, Specific Positive Reinforcement (such as praise that points to specific behaviors) has a strong correlation with increasing intrinsic motivation and self-efficacy, which are prerequisites for sustained compliance (Zahid & Cheema, 2023; S. Macalisang & G. Bonghawan, 2024). Second, Negative Reinforcement is strictly applied as the withdrawal of aversive stimuli after disciplined behavior is demonstrated, which has been proven essential in reducing the frequency of deviant behavior and strengthening self-regulation without relying on punishment (Siti Nuraisah et al., 2023). The synthesis of these patterns confirms that the integration of positive and

negative reinforcement creates a stable classroom environment, mitigates destructive behavior, and fundamentally contributes to improved discipline rooted in students' intrinsic motivation.

The second pattern identified is the central role of Shaping Behavior in developing complex prosocial behaviors. Since social behaviors such as collaboration, tolerance, and peaceful conflict resolution are not single responses, the shaping process involving differential reinforcement of approximations to the target behavior becomes crucial (An, 2022). This strategy allows teachers to break down social behaviors into achievable steps, ensuring that the internalization of character values occurs gradually and becomes an internalized response, not just temporary compliance. The combination of reinforcement (for the foundation of discipline) and shaping (for prosocial complexity) produces a double effect: discipline as the foundation of classroom stability, and prosocial behavior as a manifestation of healthy social interaction, creating a more inclusive, conducive, and conflict-free learning environment (Rad et al., 2022).

As the culmination of analytical findings and the synthesis of all studies on reinforcement and behavior shaping patterns aimed at holistic goals, this research produced the Contributive Behaviorist Conceptual Model (Original Findings). This model represents a unique integration framework that connects the principles of operant conditioning (Behavioristic: reinforcement and shaping) with the global development agenda (Contributive: instilling prosocial character and making a real contribution to SDG 16). The application of reinforcement and shaping behavior in elementary schools serves as an effective micro-policy intervention for SDG 16, as it directly instills and strengthens the foundations of social justice and peace at the smallest level. Therefore, the results of this study confirm that Behaviorism mechanisms are not only relevant to character building but are also real and measurable contributors to the achievement of sustainable development goals through education.

DISCUSSION

This discussion focuses on an in-depth analysis of how the identified patterns of findings—related to reinforcement and shaping behavior—correlate strongly with B.F. Skinner's operant conditioning theory, and positions the Contributive Behaviorist Conceptual Model as a theoretical extension relevant to contemporary character needs and the global agenda.

Behaviorism in Discipline Formation: From External Compliance to Intrinsic Motivation

Findings regarding the effectiveness of Specific Positive Reinforcement (behavior-specific praise) and Negative Reinforcement in classroom management are a revalidation of Skinner's fundamental principles, but with an emphasis on internal impact. Theoretically, reinforcement aims to increase the frequency of behavioral responses. In this context, the reinforced responses are self-discipline and social responsibility.

Contrary to the classical behaviorist view, which is often considered to focus on external control, these findings show that the specific application of reinforcement by teachers serves as a catalyst for

intrinsic motivation (self-efficacy). When praise explicitly refers to correct effort or process (e.g., “I’m glad you completed this task neatly; it shows perseverance”), this is consistent with social cognitive theory, which emphasizes reinforcement through mastery experience. Thus, this reinforcement pattern bridges behaviorism and cognitivism, showing that reinforcement not only changes behavior but also strengthens students’ self-belief, which then triggers sustained discipline (Zahid & Cheema, 2023). Negative reinforcement also plays an important role, where the withdrawal of unpleasant stimuli after disciplined behavior is performed teaches students to actively manage their environment (Siti Nuraisah et al., 2023), a key mechanism in the development of self-regulation, which is at the core of internal discipline.

Theory Extension: Shaping Behavior for Complex Prosocial Character

The application of shaping behavior in the formation of prosocial character (such as empathy, collaboration, and tolerance) is a significant extension of the function of operant conditioning beyond simple motor behavior. Prosocial character is a complex behavioral construct and does not emerge as a single response. This is where Skinner’s principle of differential reinforcement becomes highly relevant.

This discussion shows that by breaking down prosocial behavior into gradual approximations (e.g., the first step is sharing, the second step is sharing without being asked), teachers systematically reinforce behaviors that increasingly approach the desired character target (An, 2022). This process ensures that character internalization does not occur randomly, but rather through a series of controlled learning experiences tied to consequences. Through this lens, behaviorism has proven capable of overcoming criticism that it is only effective for basic behaviors, by providing a solid framework for fostering healthy social interactions and mitigating conflict (Rad et al., 2022), which is an important foundation for an inclusive learning environment.

Behavioristic-Contributive Model: Theoretical Contributions and Implementation of SDG 16

The original finding of this research, the Conceptual Behavioristic-Contributive Model, positions behaviorism not only as a pedagogical tool but as a real contributor to the global development agenda. This model theoretically shifts behaviorism toward the neo-behaviorist spectrum, which recognizes the role of measurable behavior in achieving more socially and ethically valuable goals.

The relationship with SDG 16 (Peace, Justice, and Strong Institutions) lies in the mechanisms of shaping and reinforcement themselves. Principles such as fair and consistent reinforcement reflect practices of justice at the micro (classroom) level, teaching students about the consistency of rules and consequences. When prosocial behaviors such as peaceful conflict resolution are reinforced, students learn to become responsible and non-discriminatory citizens, in line with the spirit of SDG 16 (Wanasinghe-Pasqual, 2020). Therefore, the Behavioristic-Contributive Model serves as an effective micro-policy intervention, instilling the foundations of peace and social justice at an early age, an aspect that is still rarely explored explicitly in the behavioral education literature.

Contextualization and Adaptation of Implementation

Although the Contributory-Behavioral Model provides a strong conceptual framework, comparative studies highlight that its effectiveness is greatly influenced by contextual and cultural factors (Fatima et al., 2023). Teachers must adjust the type, frequency, and form of reinforcement to be relevant to the background of Indonesian students. This model requires adaptation to align with local wisdom values, which can strengthen the impact of positive reinforcement. Therefore, the successful implementation of the Contributive Behaviorism Model in Indonesia depends on the ability of teachers to adapt B.F. Skinner's behaviorism theory into an approach that is sensitive to the social and cultural dynamics and unique characteristics of Indonesian students, in line with the spirit of the Merdeka Curriculum, which emphasizes personalized learning and inclusivity (Ismail Musa, 2025).

Methodological Limitations and Prospective Research Directions

This study has methodological limitations that should be noted, mainly because of its focus on library research. This limitation means that the conceptual findings are not supported by direct empirical data from field interventions, thus limiting the study's ability to capture the complex dynamics of classroom interactions and variations in the application of reinforcement in real-time. Furthermore, the generalization of the Contributory Behaviorist Model is limited by variations in school cultural contexts and student characteristics, where the effectiveness of Operant Conditioning is greatly influenced by contextual and social factors (Tantu & Marina, 2023). These limitations inherently affect the interpretation of results and their practical application at the policy level.

To overcome these limitations, future research is advised to shift to more interventional and integrative methodologies. The use of action research is highly recommended to directly test the effectiveness of the Contributive-Behaviorist Model reinforcement in elementary school settings, allowing teachers and researchers to collaborate in the design and evaluation of interventions. This approach can be strengthened through mixed-methods, which combine the depth of qualitative data (e.g., understanding the motivations of low-achieving students) with the power of generalization of quantitative data.

Prospective research directions should also prioritize longitudinal studies. These studies are crucial because true character formation is not only assessed by short-term behavioral changes (performance) resulting from stimuli, but also by the extent to which prosocial behavior has been internalized as a stable and enduring trait (competence). The stability and persistence of behavior must be tested because true character is measured by students' ability to make ethical choices and exercise self-discipline consistently, even when external reinforcement (rewards or praise) has been removed or when they are in challenging environments. If behavior shaped through shaping does not last, it only indicates compliance, not character formation. Therefore, longitudinal studies will provide strong evidence of the transformation from external compliance to internal discipline and sustainable prosocial character, which is a vital prerequisite for SDG 16.

Finally, the expansion of the research scope includes Cross-Cultural Studies to compare the effectiveness of Skinner's theory in various contexts (Kinyanjui et al., 2015; Uddin et al., 2017) and the exploration of the integration of behaviorism with humanistic theory (Retnasari et al., 2021). This integration aims to produce a framework that not only controls behavior but also facilitates student autonomy and intrinsic potential, making the Contributive Behaviorism Model a more holistic and rich framework.

Inclusive and Transformational Closing Insights

This study provides an in-depth synthesis that is consistent with its objective, which is to identify and analyze the application of reinforcement principles. This includes positive reinforcement (such as verbal praise and social recognition) and negative reinforcement (such as task reduction or mild sanctions), along with shaping behavior to foster discipline and prosocial behavior in elementary school students. Key findings indicate that positive reinforcement, when applied consistently, not only improves student discipline by up to 10.1% in an online context, but also builds confidence and concentration, especially for low-achieving students who often respond better to affirmative stimuli (Tantu & Marina, 2023); (Fatima et al., 2023). Shaping behavior, as a gradual process in B.F. Skinner's operant conditioning, has been proven effective in changing disruptive behavior into adaptive behavior, such as reducing littering by up to 96% through a differential praise note system, thereby creating a more structured and cooperative classroom environment (Rikki K. Wheatley et al., 2009); (Hu, 2024). This analysis emphasizes that the combination of reinforcement and shaping is not merely a control tool, but rather an interactive learning medium that encourages the internalization of prosocial values, such as responsibility and obedience, through contextual adaptations such as class size, gender dynamics, and resource availability (Kinyanjui et al., 2015); (Rafif & Dafit, 2023).

The theoretical contribution of this research expands Skinner's behaviorist framework toward neo-behaviorism, where emotional and social dimensions, such as teacher empathy and peer interaction, are integrated to form a holistic character. In the context of primary education, positive reinforcement has been shown to be superior to punishment in increasing motivation and retention, especially when adapted to cultural values, such as in Islamic education where ethical stimuli reinforce adaptive behavior without external dependence (Yuli et al., 2024); (Agus et al., 2024). This approach also highlights the role of teachers as role models in emotional socialization, where reinforcement from peers and the classroom context supports emotional regulation and prosocial behavior, thereby reducing conflict and exclusion (Valiente et al., 2020); (Uddin et al., 2017). Logically, these findings build the argument that reinforcement and shaping behavior are not only reactive to disciplinary problems but also proactive in shaping a learning ecosystem that supports students' continuous growth.

At a broader level, this research explains the contribution of reinforcement to the achievement of SDG 16 through peaceful, inclusive, and equitable education. In Indonesia's Merdeka Curriculum, for example, this behaviorist approach personalizes learning to address the challenges of inclusivity, thereby promoting peaceful societies by reducing antisocial behavior and encouraging cooperation

(Ismail Musa, 2025). In a post-conflict context, reinforcement through peace education functions as a social process that builds justice, where prosocial behavior is reinforced to achieve SDG 16 goals such as reducing violence and promoting inclusive institutions (Wanasinghe-Pasqual, 2020). In conclusion, this study confirms that behaviorism theory, when applied adaptively, provides a scientific basis for addressing discipline issues in Indonesian primary education, while contributing to the global agenda of inclusivity by recommending the integration of technologies such as digital platforms for large-scale reinforcement to ensure sustainable and equitable behavioral transformation.

CONCLUSIONS

This study aims to analyze the integration of B.F. Skinner's behaviorist principles in shaping the prosocial behavior of elementary school students and its contribution to SDG 16. Fundamentally, this study concludes that reinforcement and shaping behavior have proven effective as a pedagogical framework for modifying and fostering self-discipline and social responsibility in students. The main contribution of this study is the Contributive Behaviorist Conceptual Model, which offers an expansion of the neo-behaviorist perspective and affirms the relevance of operant conditioning in supporting the global agenda of creating a peaceful and inclusive society (SDG 16). Furthermore, it is recommended that future research conduct empirical tests (e.g., longitudinal studies or action research) to validate the long-term stability and effectiveness of this conceptual model, as well as explore its integration with more holistic approaches to character education.

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A. R. W. S.: Writing – Review & Editing; Resources

N. K. P. A.: Writing – Review & Editing

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