

The Effects of Behavioral Contracting Technique for Reducing Disruptive Behaviors of Students: A Single Subject Study

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Article Info

History Articles

Received:

10 May 2022

Accepted:

17 Juny2022

Published:

30 August 2022

Keywords:

behavioral contracting,
disruptive behaviors,
single-subject design

Abstract

Disruptive behaviors during class can interfere with teaching and learning activities. Behavioral contracting is one of the techniques in the behavioral approach that was chosen to use in assisting students to achieve full awareness to surge self-control. This study aimed to examine the effectiveness of behavioral contracting techniques to reduce disruptive behaviors of students at SMK Muhammadiyah Kajen Pekalongan. The subjects included 2 students selected by the purposive random sampling method. The data collection instrument consisted of an observation sheet with a frequency-measuring form. The design of this study was a single-subject design (SSD) in a pattern of A - B - A. Visual analysis of the graph intended to find the average score, level, trend, stability, and data overlap. The results of this analysis indicate a change in level and trend from stable to a decrease in the frequency of disruptive behavior which can then be concluded that the behavior contract technique is effective for reducing disruptive behavior in students. Further research is recommended to join other techniques with behavioral contracting.

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p-ISSN 2252-6889

e-ISSN 2502-4450

INTRODUCTION

Students and school environments are two inseparable things as their huge amount of time is spent in school. This is in line with Malvankar (2019) stating that students have invested their time to learn in an educational institution environment to improve their quality of life. In addition, Akan & Basar (2013) argued that a classroom is a place used as a means of providing learning services. Although currently, the world of education is getting advanced that teaching and learning activities can be carried out remotely, classroom learning activities remain to be widely carried out. Furthermore, Sieberer-nagler (2016) explained that classroom atmosphere including social, emotional, and physical aspects (direct interaction) can affect the growth and development of student behavior.

The urgency of education, as stated in several studies and strengthened by Christension (in Anderman & Patrick, 2012), concluded that the objective of education within a classroom scope is to influence students' perception and learning process to be adopted into their personal goals. The success of an educational program must be followed by various obstacles, as Fatkullina, Morozkina, & Suleimanova (2015) argued, the education system has a layered structure starting from the intellectual formation of the nation's children to an organized student socialization process.

Sa'adah, Wibawa, & Sunawan (2021) revealed that to develop students' potentials, it is necessary to create an attractive, safe, comfortable, and conducive school atmosphere. However, classroom teaching and learning activities may face various challenges that must be solved by teachers and students. As stated by Yi, Yun, Duan, & Lu (2021), teaching behavior is a manifestation of teaching and learning activities in the form of the emotions, words, and actions of students. Behavior itself is defined by Bergner (2011) as an internalization of motivation or desire, knowledge, skills, character, and performance shown through actions. Thus, it may be inferred that behavior is

an action taken as a form of response to a stimulus and will affect personality when carried out continuously.

Disruptive behavior of students is not something unfamiliar in the world of education it is even found in many students. The problem of student behavior is the main concern of schools as disruptive, defiant, and aggressive behaviors can hinder teaching and learning activities (Harrison, Vannest, Davis, & Reynolds 2012; Wills, Caldarella, Mason, Lappin, & Anderson 2019). This opinion is reinforced by Harrison et al. (2012) who mention that adolescent behavior problems that are most often encountered in schools are hyperactivity, distractability, and immaturity. Some of these studies show that disruptive behavior can hinder teaching and learning activities, thus requiring prevention or handling efforts. In addition, this phenomenon is also contrary to the developmental task that must be achieved by each individual, Myrick (2011) explains the developmental task for high school/vocational age children includes having socially responsible behavior by paying attention to the values applied in society and making it a guide in behaving.

Meanwhile, this disruptive behavior, if not handled immediately, will have stronger and more disturbing effects. As revealed by Müller, Hofmann, Begert, & Cillessen (2018), once a student has disruptive behaviors which is then reinforced by the environment and friends, it will lead to the possibility of students repeating and increasing the same behaviors. This opinion is reinforced by a statement from Sprague & Walker (2000) stating that if there is no intervention to overcome disruptive behaviors, such behaviors will grow stronger and last longer. In guidance and counseling, there is an approach focusing on changing individual behavior, named the behavioral approach (behavioristic). As revealed by Sunanto, Corey (2017) the basic assumption of the behavioral approach is that each individual can make behavioral changes carried out and directed by himself so that the s/he is considered an agent of change. The approach intends to improve

individual skills in response to every stimulus obtained. In line with this statement, Alberto & Troutman (2013) said that the approach focuses on behavioral changes. Moreover, Sunanto, Takeuchi, & Nakata (2005) unveiled that this approach's success is marked by a change in behavior that suits the applicable norms and ethics and is permanent as it is obtained with full awareness.

One technique in the behavioral approach that uses both positive and negative reinforcement in its therapy is behavioral contracting. Roman and Ward (in O'Donohue & Fisher, 2008) explained that behavioral contracting is an agreement between the counselor and the client intending to change the client's behavior to be more adaptive. In line with this opinion, Alberto & Troutman (2013) stated that the contract is made in the form of documents or in writing that is permanent and has been approved by the counselor and client through a negotiation process.

This technique is considered effective due to the negotiation and agreement which could emerge a therapeutic effect during an intervention. In addition, the advantages of behavioral contracting, citing to Strawhun, OConnor, & Petterson (2013), is that such an intervention is more flexible, efficient, and modest that students could do it without any effort. This technique also makes it easier for teachers to monitor changes in student behavior. Parallel with this, Erford, Miller, & Isbister (2015) explained that the main strength of behavior contracting is its demand to achieve one's consistency.

The effectiveness of behavior contracting in helping individuals improve behavior is shown in several prior studies. Sidiq, Mulawarman, & Awalya (2020) in his research has proven that behavioral contracts can reduce procrastination. Its effectiveness as an intervention to change behavior was also presented by Jamilludin, Suiarto, & Japar (2019) whose study concluded that the technique is effective for lessening verbally aggressive behavior. Further, another research by Sanna & Nursalim (2018) showed that behavioral

contracting are effective for surging students' responsibility. In contrast to these studies that have proven the effectiveness of behavior contract techniques using experimental methods, in this study the method used is a single subject design to find out the differences in levels and trends from the initial session (A1) to the last session (A2). Nevertheless, this study adopted the A-B research model resulting in no re-measurement after the intervention. The three research results illustrate that the behavioral contracting technique can overcome behavioral problems efficiently.

Departing from the above issues, the researchers objected to test the effectiveness of behavioral contracting for reducing disruptive behavior of students in SMK Muhammadiyah Kajen Pekalongan using a single subject design. This research is beneficial for the students to recognize and transform their disruptive into adaptive behaviors.

METHODS

The subjects included two XI graders of SMK Muhammadiyah Kajen Pekalongan who were indicated to have disruptive behaviors. The two subjects were females of 16 to 18 years.

The data collection instrument consisted of an observation guide, followed by direct observations. The target of disruptive behaviors included kicking (table, chair, or door), leaving seats, and interrupting speech during learning activities in the classroom. The percentage of interrater reliability was 76.2%.

The research was conducted using a single-subject design with multiple cross-behavior patterns. There are three measurement designs in a single subject design, and this study adopted the A-B-A. This design comprises three phases, the first is the baseline (A1) as the initial condition of the disruptive behavior profile before intervention with a condition length of 4 sessions, 20 minutes each. The second intervention (B) is the condition of the research subject whilst the intervention is being given in the form of individual counseling applying the

behavioral contracting technique with a total of 5 sessions whose each has 45 minutes.

The behavioral approach counseling technique used was behavioral contracting. The technique, as explained by Strawhun et al. (2013), is a written contract between students and teachers containing the obligations of students to meet agreed targets. This technique is usually intended for children with emotional and behavioral disorders. The stages of behavioral counseling in providing this intervention include assessment, goal setting, technique implementation, evaluation and termination, and feedback. The third phase is the baseline (A2), which is the final condition of the disturbing behavior profile if given after a long intervention of 4 sessions, where the duration of each session is 20 minutes.

Furthermore, the data analysis technique employed visual analysis which refers to the

graph of processed observation data results. One of the objectives of visual analysis according to Sunanto et al. (2005) is to determine the effectiveness of the intervention by minimizing the underestimated and overestimated. Based on the results of data processing, the average score, level, trend, stability level, and data overlap will be obtained.

RESULTS AND DISCUSSION

The observation results are presented descriptively in Table 1. The data displayed are the average scores of the frequency of appearance of each subject's behaviors. These results show a decrease in all target behaviors including kicking tables, chairs, and doors from 3.25 to 1.5, leaving the seat from 3.25 to 2.25 and interrupting speech from 3.5 to 1.5.

Table 1 Recapitulation of Observation Data

<i>Target Behavior</i>	Subject	Baseline (A ¹)		Intervention		Baseline (A ²)	
		Mean	SD	Mean	SD	Mean	SD
Kicking tables, chairs, and doors	A	1.25	0.5	1.4	0.55	1	0.82
	R	2	0.82	1.2	0.84	0.5	0.58
	Total	3.25	1.32	2.6	1.39	1.5	1.4
Leaving seats	A	1.5	0.58	0.8	0.45	1.5	0.58
	R	1.75	0.96	0.6	0.55	0.75	0.96
	Total	3.25	1.54	1.4	1	2.25	1.54
Interrupting speech	A	1.25	0.5	1	0.71	0.5	0.58
	R	2.25	0.5	1	1	1	1.41
	Total	3.5	1	2	1.71	1.5	1.99

To see the trend in each subject, the data are presented in the form of a graph. In addition, the analysis of changes in direction and effects, changes in stability and levels, as well as the percentage of overlapping data were carried out based on visual graphs.

The behavior of kicking tables, chairs, or doors on both subjects emerged from the first observation session. One of the triggers for this behavior is their intention to get the attention of others. To reduce this behavior, an intervention was given through the behavioral contract.

Furthermore, in the next observation session, the frequency of such behavior appeared to reduce, even absent in some sessions. Referring to this finding, the frequency of behavior had a tendency to increase it showed that in the baseline phase (A1). Meanwhile, in the intervention and baseline phase (A2), this behavior tended to experience a significant decrease. Furthermore, the percentage of overlapping data on all subjects was 0%.

The second target of behavior, leaving seats, was observed to increase in the third

session. Similar to the previous one, the intervention has given as an effort to reduce it was the behavior contracting technique. Through the contract, the subject made and agreed on several attempts to change behavior and its consequences (punishment). Furthermore, the results of observations in the intervention phase and baseline (A2) indicated a decrease in frequency. The percentage of overlapping data on both subjects was 0%.

The third behavior, interrupting speech, expressed an increase in all subjects. The

frequency of the appearance of interrupting in subject A was noted to escalate in the second session and increased in subject R during the fourth session. With these findings, all subjects were presented the behavioral contract. As a result, this behavior has decreased in frequency and the percentage of data overlap was 0%.

Overall, in summary, based on the findings explained, the behaviors tended to increase in the third baseline phase and declined whilst and after the intervention.

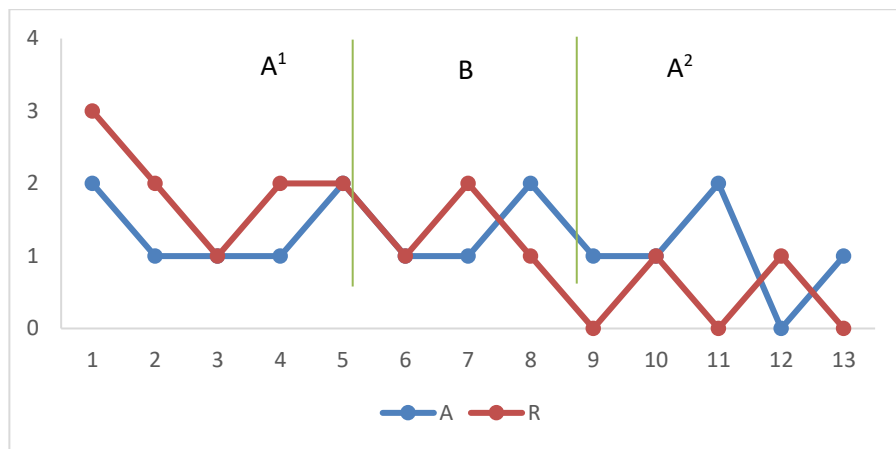


Figure 1 Behavioral Observations Results of Kicking Tables, Chairs, or Doors

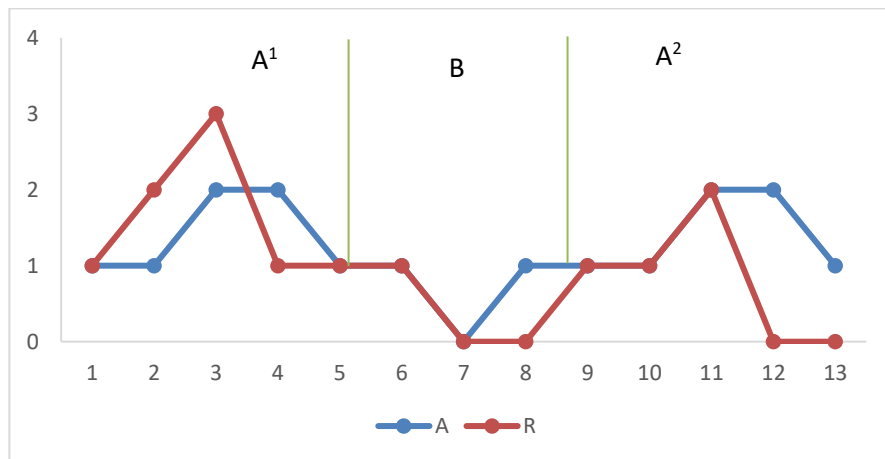


Figure 2 Behavioral Observations Results of Leaving Seats

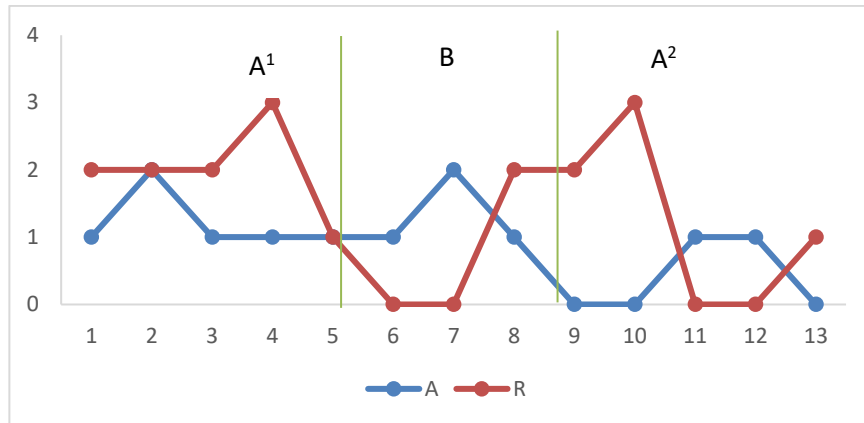


Figure 4 Behavioral Observations Results of Interrupting Speech

The graph provides an overview of the investigated behavioral changes (target behavior). The direction of change has three chart types; increasing, stagnation, and declining. The results showed a turn down of the first baseline (A1) to the second baseline (A2) where the graph expresses a positive alteration and the intervention through the behavior contracting technique is considered effective in reducing disruptive behaviors.

This study found that the behavioral contracting technique could effectively reduce disruptive behaviors starting before, whilst, and after the intervention. Based on the data described in the sub-discussion, there was a significant difference in the pretest and posttest scores. These differences indicated that the intervention given to all subjects was effective in reducing disruptive behaviors. This study has contributed new information about the effectiveness of the behavioral contracting technique for reducing disruptive behaviors.

This study's results are supported by several previous studies claiming the behavioral contracting technique. Selfridge (2014) stated in his research that contingency contracts could reinforce engagement between students and teachers, one of the indicators is eye contact. Mentioned in his research is that the absence of eye contact is a top priority for reshaping student behaviors using this technique. Furthermore, Edgemon, Rapp, Coon, Cruz-Khalili, Broan, & Richling (2021) elucidated that behavioral contracting can stimulate appropriate behaviors

and diminish inappropriate ones. In his writings, inappropriate behaviors include leaving seats while lecturing, kicking, fiddling with stationery or school facilities, and verbal abuse. Although not all subjects experienced a significant decrease in frequency, on average, all subjects experienced behavioral improvements after the intervention.

The results of the meta-analysis compiled by Bowman-Perrott, Burke, De-Marin, Zhang, & Davis (2015) stated that behavioral contracting can support academic behavior such as classroom adaptability. This technique will be more effective if applied to a small environmental scope or even in individual settings. Furthermore, it also explained that the technique is appropriate to reduce disruptive behaviors. The existence of this statement further strengthens the researchers' findings regarding the effectiveness of behavioral contracting techniques in minimizing disruptive student behavior.

CONCLUSION

Based on the findings and the results of the visual analysis described, there was a decline in the frequency of the baseline phase (A2) in all subjects. In other words, the behavioral contracting technique was effective in reducing disruptive behaviors of students in SMK Muhammadiyah Kajen. Further researchers are advised to adopt other techniques in collaboration with behavioral contracting.

REFERENCES

- Akan, D., & BAsar, M. (2013). The Effect of The Classroom Activities on classroom management in the teaching- learning process: The case of Uşak City. *Mevlana International Journal of Education*, 3(4), 147–165.
<https://doi.org/10.13054/mije.13.63.3.4>
- Alberto, P., & Troutman, A. C. (2013). *Applied behavior analysis for teachers*. Pearson Education.
- Anderman, E. M., & Patrick, H. (2012). Achivement Goal Theory, Conceptualization of Ability/Intelligence, and Classroom Climate. *Handbook of Research on Student Engagement*, 173–191.
https://doi.org/http://dx.doi.org/10.1007/978-1-4614-2018-7_8
- Bergner, R. M. (2011). What is behavior? And so, what? *New Ideas in Psychology*, 29(2), 147–155.
<https://doi.org/10.1016/j.newideapsych.2010.08.001>
- Bowman-Perrott, L., Burke, M. D., de Marin, S., Zhang, N., & Davis, H. (2015). A Meta-Analysis of Single-Case Research on Behavior Contracts: Effects on Behavioral and Academic Outcomes Among Children and Youth. *Behavior Modification*, 39(2), 247–269.
<https://doi.org/10.1177/0145445514551383>
- Corey, G. (2017). Theory and Practice of Counseling and Psychotherapy. In *Cengage Learning* (Vol. 53, Issue 9).
<http://publications.lib.chalmers.se/records/fulltext/245180/245180.pdf%0Ahttps://hdl.handle.net/20.500.12380/245180%0Ahttp://dx.doi.org/10.1016/j.jsames.2011.03.003%0Ahttps://doi.org/10.1016/j.gr.2017.08.001%0Ahttp://dx.doi.org/10.1016/j.precamres.2014.12>
- Edgemon, A. K., Rapp, J. T., Coon, J. C., Cruz-Khalili, A., Brogan, K. M., & Richling, S. M. (2021). Using behavior contracts to improve behavior of children and adolescents in multiple settings. *Behavioral Interventions*, 36(1), 271–288.
<https://doi.org/10.1002/bin.1757>
- Erford, B. T., Miller, E. M., & Isbister, K. (2015). Technical adequacy of the disruptive behavior rating scale-2nd edition-self-report. *Measurement and Evaluation in Counseling and Development*, 48(1), 30–43.
<https://doi.org/10.1177/0748175614544689>
- Fatkullina, F., Morozkina, E., & Suleimanova, A. (2015). Modern Higher Education: Problems and Perspectives. *Procedia - Social and Behavioral Sciences*, 214(June), 571–577.
<https://doi.org/10.1016/j.sbspro.2015.11.762>
- Harrison, J. R., Vannest, K., Davis, J., & Reynolds, C. (2012). Common problem behaviors of children and adolescents in general education classrooms in the United States. *Journal of Emotional and Behavioral Disorders*, 20(1), 55–64.
<https://doi.org/10.1177/1063426611421157>
- Jamilludin, M., Sugiharto, D. Y. P., & Japar, M. (2019). Group Counseling with Behavior Contract Technique to Reduce Verbal Aggressiveness Behavior. *Jurnal Bimbingan Konseling*, 9(2), 179–184.
<https://journal.unnes.ac.id/sju/index.php/jubk/article/view/34353>
- Malvankar, A. (2019). Students in Goa: Social Lives, Schooling, School Orientations and Aspirations. *Social Change*, 49(2), 216–231.
<https://doi.org/10.1177/0049085719832409>
- Müller, C. M., Hofmann, V., Begert, T., & Cillessen, A. H. N. (2018). Peer influence on disruptive classroom behavior depends on teachers' instructional practice. *Journal of Applied Developmental Psychology*, 56(March), 99–108.
<https://doi.org/10.1016/j.appdev.2018.04.001>

- Myrick, R. D. (2011). *Developmental Guidance and Counseling: A Practical Approach*. Educational Media Corporation.
- O'Donohue, W. T., & Fisher, J. E. (2008). *Cognitive Behavior Therapy: Applying Empirically Supported Techniques in Your Practice*. John Wiley & Sons. Inc.
- Sa'adah, S., Wibowo, M. E., & Sunawan, S. (2021). The Effectiveness of Cognitive Behavior Therapy Counseling to Reduce Bullying Behavior. *Jurnal Bimbingan Konseling*, 10(2), 112–122. <https://doi.org/10.15294/jubk.v10i2.49313>
- Sanna, J. B., & Nursalim, M. (2018). Penerapan Konseling Kelompok Teknik Kontrak Perilaku Untuk Meningkatkan Perilaku Tanggung Jawab Pribadi Siswa Kelas VIII-F SMP Negeri 34 Surabaya. *Jurnal BK UNESA*, 8(1), 121–124. <https://jurnalmahasiswa.unesa.ac.id/index.php/jurnal-bk-unesa/article/view/22616>
- Selfridge, K. A. (2014). Contingency contracting in the elementary general education classroom. *ProQuest Dissertations and Theses*, 146. <https://universidadviu.idm.oclc.org/login?url=https://www.proquest.com/docview/1643605048?accountid=198016>
- Sidiq, M. S. (2020). *Jurnal Bimbingan Konseling the Effectiveness of Behavioral Counseling With Token Economy and Behavior Contract Techniques to Reduce Academic Procrastination*. 9(1), 76–84.
- Sieberer-nagler, K. (2016). Effective Classroom-Management & Positive Teaching. *English Language Teaching*, 9(1), 163–172. <https://doi.org/10.5539/elt.v9n1p163>
- Sprague, J., & Walker, H. (2000). Early identification and intervention for youth with antisocial and violent behavior. *Exceptional Children*, 66(3), 367–379. <https://doi.org/10.1177/001440290006600307>
- Strawhun, J., O'Connor, A., & Peterson, R. (2013). *Behavior Contracting*. <https://doi.org/10.13140/RG.2.1.2960.2323>
- Sunanto, J., Takeuchi, K., & Nakata, H. (2005). Pengantar Penelitian Dengan Subyek Tunggal. *CRICED University of Tsukuba*, 1–150. <https://doi.org/10.5607/en.2016.25.1.33>
- Wills, H. P., Caldarella, P., Mason, B. A., Lappin, A., & Anderson, D. H. (2019). Improving Student Behavior in Middle Schools: Results of a Classroom Management Intervention. *Journal of Positive Behavior Interventions*, 21(4), 213–227. <https://doi.org/10.1177/1098300719857185>
- Yi, S., Yun, R., Duan, X., & Lu, Y. (2021). Similar or Different? A Comparison of Traditional Classroom and Smart Classroom's Teaching Behavior in China. *Journal of Educational Technology Systems*, 49(4), 461–486. <https://doi.org/10.1177/004723952198>