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Effectiveness, types, and usage of behavior modification at the elementary level

Ashley Hanscom

EFFECTIVENESS, TYPES, AND USAGE OF BEHAVIOR MODIFICATION AT THE ELEMENTARY LEVEL

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Ashley Hanscom

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ABSTRACT

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Roberta Dihoff, Ph.D. and John Klanderman, Ph.D.

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This study examined if 60% or more of the participants use Behavior Modification, if four or more different types are being used, and if Behavior Modification in effective in less than 2 months. A survey was distributed to an elementary school in Southern New Jersey (n = 25). Two out of the three hypotheses were proven; 100% of participants use Behavior Modification and more than four types are being used. Limitations, future research, and conclusions are discussed.

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CHAPTER I

Introduction

In the past years of the ever growing population of the United States, more and more couples and singles decided to start a family. As exciting as having a family is, there come the lifelong responsibilities that come along with a family. Managing children's behavior is a huge responsibility that constantly needs to be maintained starting from early childhood onward. A child's behavior management is not only important in the household but out of the household as well, such as in school.

A parent has a lot more time to manage their child's behavior than a teacher does during the school day. It can be extremely difficult for a teacher to grasp a good hold on unruly or energetic children. Teachers must find a way to manage their students' behavior over a school year. Behavior Modification (BM) is a very popular technique that helps a teacher balance their students' behavior. This study will examine how BM is used during early childhood.

Purpose of the Study

Behavior Modification can be used in numerous ways without children knowing they are being disciplined. This clever technique can also be adapted to each teachers teaching style too. The purpose of this study is for the researcher to survey all of the

different kinds of BM that is used at an elementary level. Grades kindergarten thru sixth will be examined.

Hypothesis

The researcher hypothesizes more than sixty percent of the elementary school teachers will use Behavior Modification in their classrooms to encourage good behavior, and there will be more than four different types of BM being used among the teachers. The researcher also hypothesizes that the BM techniques being used will be effective in less than two months from the beginning of the school year.

Theory and History

The Behavior Modification Theory came from the second most celebrated psychologist in history, Burrhus Frederic Skinner (B.F. Skinner). Skinner made several important contributions, all based on people's behavior, starting with operant conditioning. Operant conditioning can be described as, "the behavior is followed by a consequence, and the nature of the consequence modifies the organism's tendency to repeat the behavior in the future," (Boeree, 2006). A behavior that is reinforced has a higher probability of reoccurring again. Skinner also believed that if the behavior was no longer reinforced, that the behavior would no longer be tried because the reinforcement was no longer there (Boeree, 2006).

As B.F. Skinner was studying further operant conditioning in his lab, he came across several new discoveries with lab rats. He was running out of pellets for his rats and had no choice but to feed them less often, but at a stable rate. The rats still kept up their behaviors even though they did not get pellets every time. Skinner called this discovery,

schedules of reinforcement. He discovered that there are five different types of schedules of reinforcement that can be practiced to reinforce a behavior. Continuous reinforcement is when a behavior is reinforced every time the behavior is done. A fixed ratio schedule, which was discovered when Skinner was running out of rat pellets, is when a behavior is reinforced after so many times of the behavior being done. Next was a fixed interval schedule. If a behavior is repeated 10 times in 30 seconds the behavior is reinforced only once, and if the behavior is repeated 1 time in 30 seconds the behavior is still only reinforced once. Skinner then thought if the time period and ratio can stay the same, they can also be changed while still reinforcing the behavior. These terms are called variable ratio schedule and variable interval schedule (Boeree, 2006).

B.F. Skinner did not stop there with his numerous findings, he only went further. There were many stimuli that positively reinforced a behavior, but none that negatively reinforced a behavior. Skinner then discovered an aversive stimulus which does not positively reinforce a behavior, but reinforces something that is unpleasant. This method decreases the probability of a behavior reoccurring because it serves as a punishment. Skinner also thought of a negative reinforcement that would stop the negative behavior from reoccurring and start a positive behavior (Boeree, 2006). For example, if a mother is nagging her child (negative reinforcement) to clean up their toys, the child will be more likely to clean up their toys (positive behavior) so their mother stops nagging them.

After all of Skinner's incredible contributions to behavior in psychology, did he come up with his own therapeutic technique: Behavior Modification. BM can be described as, "extinguishing an undesirable behavior (by removing the reinforcer) and replace it with a desirable behavior by reinforcement," (Boeree, 2006). Skinner believed

that behavior is controlled by the environment and needs society to manage some of the behaviors. BM has been used in classrooms, to help autistic children, and to help people overcome phobias and other maladaptive behavior (www.essortment.com).

Behavior Modification uses basic methods to alter behavior by giving compliments, encouragement, approval, and affirmation of a positive behavior. This method not only gives immediate rewards or punishments, but also gives a brighter outlook on the future with more positive behavior (www.wellness.com). This technique does not come at once and there are numerous ways BM can be practiced.

A very popular BM technique is called shaping. A therapist, teacher, or parent must first shape the behavior of the person in order to get the desired behavior. Shaping is a reinforcement that is approximate to the desired behavior; there are several levels that must be attained before the reward is delivered. This system is done on a hierarchy scale and has the person work their behaviors to the desired reward and desired behavior. For example, if someone is afraid of spiders they will first hold a stuffed spider, second hold a realistic looking plastic spider, third observe spiders in a cage, fourth watch someone else holding a real spider, and finally hold a real spider. The ultimate behavior of not being afraid of spiders was achieved after several other tasks were completed. Gradually overcoming the fear of spiders shaped the person not to be afraid of spiders any longer in only five steps (www.allpsych.com).

Token economy is another widely known BM technique. This technique has secondary reinforcements for a reward. This means that a positive behavior receives tokens, coins, stickers, etc. which can later be exchanged for a reward. The reward does

not come at once and the person must continuously work towards the reward. If the amount of tokens, etc. in order to receive the reward is not obtained, then the reward is not distributed. Token economy is mostly used in a group setting so the entire group can work together towards the desired reward (Cloninger, 2004). Examples of rewards in a school setting could be a pizza party at the end of the week if the class receives 25 stickers for good behavior during the week, or more play time on Friday for receiving 25 tokens during the week.

Behavior Modification is still widely used today with various types of behavior such as: self-help behaviors, social behaviors, work-oriented behaviors, academic behaviors, nonacademic behaviors, and undesirable behaviors. This therapy technique has been known for changing hopelessness into possibility for professionals and nonprofessionals worldwide (Wenar & Kerig, 2006).

Definitions

Attention-Deficit Hyperactivity Disorder (ADHD) – showing signs of being impulsive, being overly active, and/or having trouble paying attention.

Asperger Syndrome- a form of Autism; socializing disorder.

Autism spectrum disorder- difficulty with communication, socialization, and behavior.

Cognitive behavior modification (CBM) - therapy technique that improves both thoughts and actions.

Conduct disorder (CD) - violent behavior and emotional disorder.

Continuously- without stopping.

Discontinuously- stopping frequently.

Modeling- representation of what is supposed to occur or be done.

Negative reinforcement- decreasing an action or behavior by something disapproving.

Oppositional defiant disorder (ODD) - excessive disobeying, talking back, misbehaving, and arguing.

Peer feedback- response to an action or process by peers.

Positive behavioral support (PBS) - preventing problem behavior while also supporting learning and social interactions.

Positive reinforcement- increasing an action or behavior by something constructive.

Prompt- remind or suggest something.

Self-guiding- to show oneself the way.

Self-instruction- teaching the self.

Self-management- to take care of or be in charge of yourself.

Self-monitoring- supervising yourself.

Skill acquisition- gaining a skill or skills.

Skill maintenance- keeping a skill or skills.

Social-validity- justification by society.

Stimuli- something that inhibits an incentive or action.

Assumptions

In this study the researcher is assuming that behavior modification is effective for all of the children at the school that is being surveyed. If there are any children with learning disabilities or cognitive disabilities, the BM techniques will be appropriate for them as well. In addition, the researcher is assuming that every teacher being surveyed was taught what behavior modification is and how to use the technique, and that the teachers are responding with integrity. The researcher is also assuming that the sample taken for this study is representative of the general population.

Limitations

A limitation in this study is not knowing if any of the children in the school are not affected by behavior modification for the reasons stated above in the previous section. The limited amount of time to interview each teacher to get more specific information about their behavior modification techniques and exactly how affective the technique is with their students is another limitation. Finally, the sample group in this study is not as heterogeneous as a large population is.

Summary

In addition to the sections already discussed, there are several more chapters the researcher has prepared. Chapter 2 will discuss past research that has been conducted using behavior modification; there will be studies that we and were not closely related to this study. Chapter 3 will consist of the design of this study. The participants, research design, measures, and collection of data will be a part of Chapter 3. Chapter 4 will be the

results of the study, and the last chapter will consist of the interpretation of the results, limitations of the study, future research, and conclusions of the study.

CHAPTER II

Literature Review

This chapter will examine numerous past research studies dealing with Behavior Modification. The articles exemplify many different types of BM with many different population samples. The different types of BM will be discussed at length in general educational settings. In addition, the use of BM with children who have disabilities will be discussed.

Behavioral Modification in General Education Classrooms

CBM

Crum (2004) investigated the use of cognitive behavior modification (CBM) with an 8-year-old boy, James, who was having behavior problems in school. James would frequently be off-task, distracted by others when working in groups, and distracting to the other students in the class. Crum (2004) implemented self-monitoring with James to decrease his problem behaviors. Positive and negative reinforcement was also used to help James realize when he was and wasn't displaying appropriate behavior.

The intervention strategies used with James were promising. James began to display on-task behavior after the beginning of the study, and his on-task behavior increased as the study continued. Once James was able to concentrate on a task for a period of time, he was able to monitor his own behavior. Goal setting for James was a

huge help in reaching his daily goals of decreasing his problem behavior and increasing his on-task achievement (Crum, 2004).

Self-instruction has also been used in combination with reading tasks for first graders. Nine different first grade classrooms were randomly assigned into groups of six different reading tasks. Five of the reading tasks involved strategy selection and reasoning in order to train them in self-instruction. The other reading task that did not involve strategy selection or reasoning was used as the control groups. The nine teachers were trained in providing self-guiding statements to the students during the self-instruction activities during two sessions prior to their classrooms intervention (Mahn & Greenwood, 2001).

The groups that involved self-instruction showed an increase in academic skills for the tasks implemented. This concludes that students who use more self-instruction techniques are more likely to achieve academically. Self-instruction also implements student's increased independent behavior and willingness to complete activities on their own; this is because of the confidence self-instruction has on children (Mahn & Greenwood, 2001).

Ossler and Badar (1990) have also found research results that conclude that self-monitoring or self-instruction gives students active roles in increasing their task attention and responsibility. Self-instruction is a problem-solving strategy which teaches children "how"-to-think when modifying behavior rather than a teacher teaching them "what"-to-think, which is the basis of CBM (Robinson II & Smith, 1997). Swaggart (1998) suggest

in addition to using self-instruction and self-monitoring, to use observational learning as a CBM technique by teaching children how to acquire self-control.

Competence Enhancement Behavior Management (CEBM) is yet another CBM technique that is used to help build positive relationships with students, teach appropriate behaviors, and increase student self-esteem. Farmer, Goforth, Hives et al. (2006) have conducted two studies that implement the CEBM technique in classrooms of 4th and 5th graders. The methods in both studies include: clear and simple behavioral expectations of the students, communicating with the students in the correct tone of voice (positive, caring, and empathetic), redirecting groups and individuals when their behavior is unacceptable, and adapting types of instruction for student success.

Both of these studies resulted in more positive student behavior, more positive communication between teacher and student, and stronger positive beliefs and attitudes of the students. Farmer, Goforth, Hives et al. (2006) believes that every teacher should include the CEBM technique in their classroom. This technique has been proven to be affective and decrease student's negative classroom behaviors in only one month from the start of the interventions.

Cognitive behavior modification has been used for more than 25 years to help decrease negative behaviors. Robinson, Smith, Miller, and Brownell (1999) compiled 23 research studies that have all looked at aggressive behaviors and hyperactivity with CBM interventions with school-aged children. CBM has improved the aggressive behavior and has enabled the children to control their behavior. A large 88% out of the 23 studies

illustrated this improvement; 89% of the 23 studies have shown a decrease in hyperactivity with the use of the CBM interventions.

The self-awareness component of CBM is an important aspect in improving one's behavior. Inappropriate behavior is not always seen as inappropriate by the person conducting the behavior until it is pointed out to them as being negative. In a particular research study, once this is was done the individual can be aware of the negative behavior and change it to positive behavior (Levy, 1996). Ryan, Sanders, Katsiyannia, and Yell (2007) have applied the self-awareness component by utilizing time-outs. A child has time to think about their negative behavior while in time-out, and has time to improve in their behavior in the future when they are reintroduced into the setting they were temporarily excluded from. The reality based method of self awareness affects a child's attitudes and beliefs of their own behavior. The judgment the child encounters during CBM puts their thinking into action to improve upon their behaviors (Topf, 1998).

PBS

Positive behavior support is widely used in the general education setting to help diminish BM problems. Cleaver (2006) used a PBS technique in their classroom to see the effectiveness. The researcher informed the students that there would be new classroom rules: Be Nice. Be Safe. Be responsible. If someone doesn't follow the rules, then they will not get rewarded with stickers. But the rest of the class would get stickers.

In addition to the sticker rewards, there was a color-coded behavioral system. The colors were green, yellow, orange, and red; each color meant a different level of punishment. The green level was the safe zone, the yellow level was a time-out; the

student had to sit at another table and could not play with certain toys. The orange level was the official time-out and was used when a child's aggressive behavior did not decrease. The red level meant that the child had to meet with the principal or counselor because their behavior was so severe. Each colors consequence was repeated when a student was moved to another color. If a student was on a color other than green, they could work towards getting off that color by practicing good behavior (Cleaver, 2006).

The results showed that when a child did get on a color other than green, they quickly worked to get back to the green level. This PBS concept has also supplied great reinforcement and support for everyone in the classroom. The repetition of each colors consequence when a student is moved from one color to another was a huge success. Only after a couple days did all the students in the class know what each color consequence was (Cleaver, 2006).

Another type of PBS was used across four different public schools in the preschool classrooms by Michael, Meese, Keith, and Mathews (2009). The researchers for this study introduced a stuffed bear named Bob Bear. Bob Bear was used in the classrooms to enhance appropriate behavior, set good examples, and enforce the classroom rules. These tasks are illustrated by having Bob Bear act as a member of the class. The teachers would ask Bob Bear frequent questions throughout the day about how to behave appropriately, repeat the classroom rules, and role-play how to set good examples for the other students.

The classrooms target behaviors decreased after Bob Bear was utilized in all four classrooms. In addition to reinforcing the classroom rules and appropriate behavior and

setting good examples, the four teachers also reported Bob Bear helped in understanding directions and completing activities. Following directions and completing activities grew as the student's personal relationship with Bob Bear improved (Michael et al., 2009).

Reinke, Lewis-Palmer, and Merrell (2008) developed their own type of PBS called the Classroom Check-Up (CCU). CCU was designed to address classroom support while minimizing classroom behavioral problems. This technique focuses on personal feedback to the teachers, enforcing student responsibility, different intervention strategies, and increasing teacher motivation.

The dependent variables for this study were: frequency of teacher praise, teacher reprimands, and student misbehavior. Before each classroom observation, the teachers would get feedback and review their self-monitoring sheets as well. Each of the four classrooms participating in the study was observed for 10 minutes every day at the same time of the day. The data was collected by observers who were unaware of the studies research questions (Reinke et al., 2008).

As a result, Reinke et al. (2008) found that there was an increase in behavioral praise and a decrease in the frequency of teacher reprimands and student problem behavior during the observation times in all four classrooms. At a 1-month follow up the initial results were still on target and the teachers were no longer receiving feedback on their performances.

Teacher's feedback on PBS in their classrooms has also been researched; this method was conducted in the form of a survey with 14 teachers of elementary classrooms. The survey consisted of three factors: social validity, effectiveness of

interventions in the classrooms, and the interventions acceptance. The 14 teachers had previous consultations with the researchers in order to learn the PBS interventions (Chitiyo & Wheeler, 2008).

Chitiyo and Wheeler (2008) had positive results with their study; teachers reported increased classroom management and increased amount of interventions skills then they had previously. The classroom problem behavior in all 14 classrooms decreased as well as the severity of the behavioral problems.

Establishing few, direct classrooms rules and reinforcing those rules frequently have also been proven to be a positive PBS strategy. The attitude in which the teacher introduces the rules and reinforces them is linked to how effective the rules will be (Hardman & Smith, 1999). Curwood (2008) has complied research using PBS through a technique called the "Tattle Box". Students write down who was doing something wrong and what they were doing wrong (unless it is an emergency) and put it in a box instead of disrupting the class during lessons. This cuts down on classroom disruption and also does not reinforce the student's bad behavior in front of the other students; this may cause the student to engage in more negative behavior in order to receive attention from the teacher and their classmates.

Positive behavior support is also affective when combining literacy strategies with PBS to work on more than one problem area at a time (Smith, 2009). Noell (2008) and Warren, Bohanon-Edmonson, Turnbull, et al. (2006) find that using PBS as a school-wide intervention, which has already been done in hundreds of schools, shows great improvement on inappropriate behavior too.

Reinforcement Strategies

Lannie and McCurdy (2007) tested positive reinforcement in a classroom by using a game technique. Each day, the teacher would set a timer for 30 minutes during a math lesson. The class was put into groups prior to the intervention; each group was represented by a chart that the teacher had control over. Each time the group or someone in a group was misbehaving, the teacher made a mark on that groups chart. At the end of the 30 minute time period the teacher tallied up each group's marks. The students were unaware of how many marks would or wouldn't receive a reward each day. The teacher had a different number of marks that met the criterion for a reward each day. If the number of marks was at or below the criterion for that day, then the group would receive the reward.

This study was consistent with its hypothesis that the game would increase good behavior and decrease bad behavior. The teacher reported that the game was very effective for managing behavior in the classroom; however the teacher did not increase her praises during the game. Having more classrooms participate in a study would increase the likelihood of this game method working with more students (Lannie & McCurdy, 2007).

Positive and negative reinforcement was studied to see which reinforcement strategy was more favored by children and decreased more problem behavior. The five children in this study were asked to complete some work and received both positive and negative reinforcement. The negative reinforcement was a silent break from the work,

and the positive reinforcement was a choice of food during their break from work (Kodak, Lerman, Volkert, and Trosclair, 2007).

Kodak et al. (2007) found that one child did not have a preference between reinforcement types. However after being exposed to both reinforcement types, the other four children favored the food break, positive reinforcement. The researchers called for more studies on the preference of different types of positive and negative reinforcement.

Children's posture in the classroom has also been regulated with BM; this study used modeling, prompt, and reinforcement to enforce good posture. Two different classrooms were the sample of 28 different sessions to encourage good posture. Across all 28 sessions correct sitting posture was at 80% to 100%; that is an increase from 20% to 90% from before the study. The students writing productivity also showed signs of improvement reported both classroom teachers (Noda & Tanaka-Matsumi, 2009).

Student teachers from a university in Indiana rated seven different strategies to diminish discipline problems over a three semester period; there were 135 student teachers who participated in this study. There were three strategies that were most helpful, positive reinforcement being the most effective. The large sample group was a strong point for this study which was utilized in numerous Indiana schools (Tulley & Chiu, 1995).

Zuluaga and Normand (2008) compiled research on instruction with and without reinforcement; the instruction with reinforcement was more promising. Reinforcement along with music has also shown to improve problem behaviors (Wetzel, 2007). Dube and Orpinas (2009) findings suggest that children who purposefully miss school is

because the children are seeking positive reinforcement from parents. Compliments, smiles, positive feedback, and praise are all reinforcers that are easy to implement and retain positive behaviors (Anonymous, 2007).

PBS and Reinforcement Strategies

Coogan, Kehle, Bray, and Chafouleas (2007) composed a study of a classroom that had five students who expressed inappropriate behavior, interrupting their other classmates and the lessons each day. The researcher's BM techniques in this study were: self-monitoring, peer feedback, and reinforcement. The intervention took place for 28 days and before each lesson started the class took time for peer feedback of the lesson the day before. The reinforcement rewards available to choose form were: free time at the end of class, a prize from the prize box, a piece of candy, a free homework pass, free time to talk to a friend, free game time, and 10 extra points on a test.

The student's desks were arranged into groups of three. Each student had a self-monitoring sheet that they were supposed to make a check on the sheet if they used inappropriate behavior during a lesson. Each group also had a board that measured the entire group's behavior. If someone in the group was misbehaving during the lesson, the entire group lost a pin off of their board which resulted in a loss of a point for the entire group. There were four pins on each group's board; at the end of the lesson if there was at least one pin left on the board, then the group received a reward. If there were no more pins left on a board, then the group did not receive a reward. Also, if a student had more than two checks on their self-monitoring sheet, then that individual did not receive a reward (Coogan et al., 2007).

This study was the first to use self-monitoring, peer feedback, and reinforcement all during one intervention. This intervention process was not only effective for the five students, but as a class as a whole. The teacher rated this study as enjoyable and absolutely effective. The students in the class rated this study as favorable too (Coogan et al., 2007). This study was a lot like Lannie and McCurdy's (2007) study, with the style of the game played in the classrooms, except this study combined BM strategies.

Gable, Hester, Rock, and Hughes (2009) combined reinforcement (praise) with PBS (classroom rules). The researchers compiled studies from the 1960's to present about the combination of these BM techniques. These strategies together have shown great increases in positive behavior. Noell, Duhon, Gatti, and Connell (2002) also combined reinforcement with PBS across eight elementary schools. Reinforcement and performance feedback were used and the results concluded that combining these techniques was affective in decreasing negative behavior and student referrals for problematic behavior to outside classroom resources.

Behavior Modification Used with Children with Disabilities

CBM

A study that looks at children with oppositional defiant disorder (ODD) and conduct disorder (CD) are monitored in the welfare setting. As in the previous study, CBM is used. Children in the welfare program are either exposed to a CBM program and welfare program, or just the welfare program. The CBM program consists of therapy sessions for the children; the children are rewarded with token during the sessions for displaying socially accepted behavior and diminishing aggressive behavior. The tokens

can then be redeemed for playtime at the end of the therapy session. The welfare program consists of parenting advice and strategies to deal with their ODD or CD child, tutoring to improve school performance, and removing the child from their house and placing the child into a residential home if their parents fail to keep their children safe (Nitkowski, Petermann, Buttner, Krause-Leipoldt, & Petermann, 2009).

The results of the Nitkowski et al. (2009) study confirms the hypothesis that the CBM program along with the child welfare program would have more success than the welfare program alone. The children's social and conduct problems decreased more with the CBM program and welfare program reported the children themselves and their parents. The children's teachers also reported that the combination of the programs also had a positive effect of the children's behaviors in their classrooms as well.

Using "I Will" cards, Boutot (2009) examined the effectiveness of self-management through CBM and social skills with students who have Asperger syndrome. "I Will" cards are positive statements that contain "I Will" so students notice their own appropriate behavior, diminish inappropriate interruptions during class, and improve their social situations. The children decreased class interruptions and increased behavior and social skills by reading the "I Will" cards to themselves (Boutot, 2009). Simpson and Myles (1998) also have conducted studies using CBM with students with Asperger syndrome. Once the students understand how their behaviors have an influence on the rest of the class, they minimize their disruptive behavior. Expressing their emotions may be difficult; Simpson and Myles (1998) study showed being firm but understanding of the students' difficulty to share their emotions is critical.

Self-management, self-monitoring, and self-instruction have been successful for Fitzpatrick and Knowlton (2009) for CBM techniques for students with ODD. Along with Wetzel (2007), De l'Etoile (2005) has used Music as a BM technique. Wetzel (2007) used music as a reinforcement strategy in general education classrooms, and De l'Etile (2005) used music with CMB techniques to minimize disruptive behavior of students who have Attention-Deficit Hyperactivity Disorder (ADHD) and/or ODD.

PBS

A single subject design study on an adolescent girl, Mindy, who is on the Autism Spectrum and has aggressive behavior was completed by Murray, Clarke, and Worcester (2002). The researchers of this study decided to use a positive behavior support (PBS) approach, another type of BM. After six weeks of observing Mindy in her classroom, a behavioral support plan was compiled. Mindy was taught that when she displayed appropriate behavior she would receive a stimulus or activity of her choice.

Mindy was very successful with the PBS approach to BM. She experienced less aggressive behavior and was able to tend to activities for longer periods of time than before PBS. In addition to displaying less aggressive behavior, she was able to help with household chores and take walks with her peers because the PBS approach rewarded her for good behavior which resulted in increased happiness for Mindy. Mindy's overall tantrums have been less severe, shorter, and fewer (Murray et al., 2002).

Lucyshyn, Albin, Horner, Mann, Mann, and Wadsworth (2007) also used PBS with an Autistic child. The 10-year longitudinal study was extremely successful. The child's problem behavior was resolved and her participation level in routines increased by

75%. The child's happiness and quality of life was reported by her parents to increase a great deal because of the PBS intervention and implementation over the 10-year period. Her behavior not only improved in school, but at home and in various environments.

Reinforcement Strategies

Cummings and Carr (2009) test skill acquisition and maintenance with behavioral treatments for children with autism spectrum disorders. The children were taught up to four behavior programs with different skills. Half of the sample was measured continuously and the other half was measured discontinuously. During the testing, if a child got a question correct they were rewarded with immediate praise and access to a preferred stimulus briefly. If the child did not respond correctly the experimenter would provide encouraging praise to try again.

Performance that was continuously measured showed the children's skills in more sessions than the children who were discontinuously measured, even though at the three week follow up the children's skill mastery was better continuously. The behavioral modification techniques (praise and access to stimuli) increased the duration of the sessions, but did lead to more positive skill mastery that coincides with more long-term maintenance being achieved (Cummings & Carr, 2009).

Various other reinforcement techniques have been used with children who have disabilities. Lytle and Todd (2009) have found that eliminating stress for children with Autism can affectively be done with positive reinforcement techniques. Teaching organizational skills to children with severe behavioral disorders by using reinforcement was done by Anderson, Munk, Young, Conley, and Caldarella (2008). Conroy, Dunlap,

Clarke, and Alter (2005) compiled over 70 studies from1984-2003 that tested positive reinforcement with children with ADHD, ODD, Autism, physical disability, or intellectual disability. Unfortunately, only 40% of the studies had a direct link between the interventions and children's behaviors. Roanne and Kelley (2008) also used reinforcement with a girl who has physical and behavioral disabilities. Their findings were positive; negative behavior was decreased after the techniques were applied.

Summary

Numerous studies were examined and each study implemented a BM technique; CBM, PBS, reinforcement, and fusing PBS and reinforcement together were the types of BM included. Crum (2004) utilized self-monitoring and Mahn and Greenwood (2001) utilized self-instruction, two types of CBM, to decrease problem behavior with students. Using a PBS technique Michael et al. (2009) introduced a stuffed bear to students in order to increase positive behavior, implement classroom rules, and show how to act in the classroom had immense positive results. Lannie and McCurdy (2007) used an inventive game technique to apply reinforcement in the classroom not only had teacher approval, but student approval as a successful technique. These same techniques that worked for general education classrooms without students with disabilities were also affective with students who have disabilities; some were in general education classrooms and some were not.

CHAPTER III

Methodology

This chapter will discuss the participants, design of the study, procedures of the study, and type of analysis used. Each part will be depicted in great detail. The exact steps taken to prepare and conduct the study will be looked at thoroughly in order to describe what was done and for further research or replication on the study.

Participants

The participants of this study were 25 teachers in a suburban elementary school, kindergarten through sixth grade, in southern New Jersey. There were two teachers per grade for regular education classrooms, special education teachers, resource room teachers, and teachers for gym, library, music, art, etc. in this particular elementary school. The participants teaching experience ranged from three years to over 30 years. Each participant was not obligated to complete the survey; the teachers could object to completing the survey if they felt necessary to do so.

Design

The design of this study was in survey format. Based on the hypotheses and research questions, the researcher compiled questions that would answer the desired information. The researcher compiled the one-page survey with several different questions that varied in types from open ended, scale, and multiple choice questions.

In addition to the questions, there was a consent paragraph describing what this survey was in search of, why it was being done and by what institution the survey being proposed by. The consent paragraph also stated that for any reason the participant did not have to complete the survey or certain questions on the survey if they did not want to. Finally, there was the researchers contact information and institutions contact information for any further questions the participants may have as well as the reassurance of anonymity.

The researcher did not base this study off of any other study that has been compiled in the past. This study therefore does not have any reliability or validity because there is not another study to base this study off of. The researcher composed original questions about BM at the elementary level to construct the survey in this study.

Procedure

The survey was conducted during a faculty meeting in the south New Jersey elementary school. The researcher introduced herself and described the consent paragraph at the top of the survey and then distributed the surveys. The participants were instructed to put their surveys in a manila folder when they were done. This was done so the researcher did not collect the surveys from the participants and put a face to a particular survey obstructing the anonymity.

The researcher then went out of the room while the teachers were filling out the survey to keep the anonymity of the study. After about five minutes the surveys were completed, put in the manila folder, and then researcher was brought back into the room in order to get the manila folder with the completed surveys in it.

Analysis

The researcher used descriptive statistics to measure the hypothesis: more than 60% of the participants will have used BM, there will be more than four types of BM being used, and the BM techniques being used will be effective in less than two months. Correlations were also computed to see whether or not there was an effect on the grade taught and the amount of time it takes for the BM techniques to work, and whether or not there was an effect on the length of time the teachers taught and the amount of time for the BM techniques to work.

Summary

The participants are 25 teachers from an elementary school in southern New Jersey that range in grades from kindergarten through sixth grade. The survey consisted of a consent paragraph followed by five questions based on the hypothesis. The survey was measured by descriptive statistics and correlations in order to calculate the answers to the hypothesis.

CHAPTER IV

Results

The results were compiled shortly after the survey was taken in February 2010. Whether or not more than 60% of the participants used BM in their classrooms, if more than four types of BM are being used, and if the BM techniques are effective in less than 2 months from the beginning of the school year have been analyzed. This section will take a look at each hypothesis' results individually.

The first hypothesis stated more than 60% of the participants would use BM to improve students' good behavior in their classrooms. Out of the 25 participants in the study, 100% of them used BM in their classrooms. This high percentage was unforeseen and confirms that BM is widely used in classrooms at the elementary level. This hypothesis' results were not foreseen as being this significant. Future research should be conducted to endure this hypothesis' encouraging results.

There were a total of 10 different types of BM that were most popular, according to the literature review, that could have been selected by the participants on the survey, and a category 'other' for types of BM that were not discussed in the literature review. Every type of BM listed, including 'other', was selected by the participants proving that more than four types of BM are being used at the elementary level. The types were coded as follows: (1) sticker chart, (2) time-out, (3) self-monitoring, (4) positive statements, (5)

token economy, (6) classroom rules, (7) color-coded behavior chart, (8) peer feedback, (9) prize/candy box, (10) self-instruction, and (11) other (see Table 4.1).

Type of BM Used

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	8.6	8.6	8.6
	2	5	5.4	5.4	14.0
	3	5	5.4	5.4	19.4
	4	23	24.7	24.7	44.1
	5	4	4.3	4.3	48.4
	6	20	21.5	21.5	69.9
	7	2	2.2	2.2	72.0
	8	3	3.2	3.2	75.3
	9	11	11.8	11.8	87.1
	10	1	1.1	1.1	88.2
	11	11	11.8	11.8	100.0
	Total	93	100.0	100.0	

Table 4.1

The second hypothesis results was almost triple of the hypothesis more than four types of BM being used; 11 types of BM are being used by teachers at this elementary school in Southern New Jersey. There are numerous different types of BM being used with some being more favorable than others. The mode of types of BM used is positive statements. Twenty-three out of 25 participants used positive statements, or 24.7% of the types used by teachers are positive statements. The next most common type of BM used are classroom rules with 20 teachers, 21.5% of the total types, using this method. The third and fourth most common types of BM dropped by more than 10%; a prize/candy box and other types of BM not stated in the survey were tied both resulting with 11% of

participants. There was also another tie with time-outs and self-monitoring both resulting with 5.4% of participants. The least common type of BM is self instruction; only 1.1% of teachers used this technique in their classrooms (see Table 4.1). There was no correlation between the types of BM used and grade it was used in. Almost every type of BM was used in lower elementary (Pre-K-3rd grade) and upper elementary (4th – 6th grade).

The last hypothesis stated BM would be effective in less than 2 months from the beginning of the school year in September. The codes for this hypothesis, in order to be interpreted on SPSS, are: (1) less than one week, (2) about a week, (3) several weeks, (4) about one month, (5) about 2 months, (6) about 3-5 months, and (7) 5 or more months. There were two modes representing the time frame BM is most effective. Six participants reported BM in their classroom was effective in less than one week, and another six participants reported BM in their classroom was effective in 5 or more months. This disproves this hypothesis because 25% of participants reported BM was effective in less than one week and 25% also reported BM was effective in 5 or more months from the beginning of the school year in September. Fifty percent of the participants were at opposite spectrums of the time period scale (see Table 4.2).

BM was effective in about one month for 16.7% of participants.. Participants had another tie in this questions results; BM was effective in several weeks for 12.5% of participants and effective in about 3-5 months for another 12.5% of participants. About one week was the least amount of time effective for BM for only 8.3% of participants. One participant did not answer that question of the survey which could have skewed the results. With the inclusion of the single participant, perhaps this hypothesis would be proven if the participant had put less than one week (see Table 4.2).

Time in Which BM was Effective

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	25.0	25.0	25.0
	2	2	8.3	8.3	33.3
	3	3	12.5	12.5	45.8
	4	4	16.7	16.7	62.5
	6	3	12.5	12.5	75.0
	7	6	25.0	25.0	100.0
	Total	24	100.0	100.0	

Table 4.2

Descriptive statistics were also calculated for the grades taught and length of time teaching. The elementary school ranged from Pre-K- 6th grade; each grade had a different code: Pre-K (1), kindergarten (2), first (3), second (4), third (5), fourth (6), fifth (7), sixth (8), and more than one grade (9). 44% of participants taught more than one grade. There were three teachers that taught fourth grade only and 2 teachers each that only taught kindergarten, first, fifth, and sixth grades. Pre-K, second, and third grade had one teacher that only taught that grade; the teachers who taught multiple grades were not included and had their own category (see Table 4.3).

The length of time teaching was broken down into a coded scale: 0-5 years (1), 6-10 years (2), 11-15 years (3), 16-20 years (4), and 21 or more years (5). 26.3% of participants have been teaching for 21 or more years, 21.1% have been teaching for 16-20 years, another 21.1% teaching for 0-5 years, and participants teaching for 6-10 years and 11-15 years both represented 15.8% of the participants. Regrettably only 19 out of the 25

participants answered that question. With full inclusion of all 25 participants, the statistics would be very different and perhaps more sustaining (see Table 4.4).

Grade Taught

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.0	4.0	4.0
	2	2	8.0	8.0	12.0
	3	2	8.0	8.0	20.0
	4	1	4.0	4.0	24.0
	5	1	4.0	4.0	28.0
	6	3	12.0	12.0	40.0
	7	2	8.0	8.0	48.0
	8	2	8.0	8.0	56.0
	9	11	44.0	44.0	100.0
	Total	25	100.0	100.0	

Table 4.3

Length of Time Teaching

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	21.1	21.1	21.1
	2	3	15.8	15.8	36.8
	3	3	15.8	15.8	52.6
	4	4	21.1	21.1	73.7
	5	5	26.3	26.3	100.0
	Total	19	100.0	100.0	

Table 4.4

In order to see if there was any link to the grade taught and length of time in which BM was effective and the number of years a teacher taught and the length of time

in which BM was effective, correlations were computed in the SPSS computer system. There was a slight correlation between what grade was taught and the length of time in which BM was effective in the classroom (r = .850). Although there was some correlation, the correlation is not strong enough to be significant (see Table 4.5). There was not a correlation between the amount of years a teacher taught and the length of time in which BM was effective in the classroom (r =.432) (see Table 4.6). If there was a correlation strong enough to be significant, future research could be conducted to get a more accurate result with a larger sample size.

Time and Grade

		time	grade
time	Pearson Correlation	1.000	.040
	Sig. (2-tailed)		.850
	N	25.000	25
grade	Pearson Correlation	.040	1.000
	Sig. (2-tailed)	.850	
	N	25	25.000

Table 4.5

Length Taught and Time

		length	time
length	Pearson Correlation	1.000	.165
	Sig. (2-tailed)		.432
	N	25.000	25
time	Pearson Correlation	.165	1.000
	Sig. (2-tailed)	.432	
	N	25	25.000

Table 4.6

CHAPTER V

Discussion

Two out of the three hypotheses were proved in this study. More than 60% of the participants used BM in their classrooms resulting in a 100% outcome. Eleven different types of BM are currently being used at the elementary level (see Table 4.1). However, 25 % of teachers reported BM being effective in less than one week and 25% reported BM being effective in 5 months or more disproving the hypotheses that BM would be effective in less than 2 months (see Table 4.2). Further discussion will be made about the study's findings.

Self-monitoring and self-instruction are used to decrease problem behavior by having the student monitor their progress and giving them an active role in increasing their task attention and responsibility for their actions (Ossler & Badar, 1990). Robinson II and Smith (1997) concur and add that self-instruction helps children "how"-to-think when modifiying behavior and not "what"-to-think. Crum (2004), Mahn and Greenwood (2001), and Fitzpatrick and Knowlton (2009) have all used self-monitoring and self-instruction and have had positive results. Only five participants in this study used self-monitoring and one participant used self-instruction. It is possible that self-monitoring and self-instruction are more affective with older students since both concepts entail a higher level of thinking than an elementary student is capable of doing.

The most commonly used type of BM in this study at the elementary level is positive statements; 23 out of 25 participants used this type of BM. Positive statements were proven effective for researchers such as: Lannie and McCurdy (2007), Kodak et al. (2007), Noda and Tanaka-Matsumi (2009), Tulley and Chiu (1995), Zuluaga and Normand (2008), Wetzel (2007), Orpinas (2009), Anonymous (2007), Cummings and Carr (2009), Lytle and Todd (2009), Anderson et al. (2008), and Roanne and Kelley (2008). Positive statements are easy to implement, take little time, and are extremely effective. Twelve out of the 13 researchers looked at reported positive results for using this technique of BM.

Classroom rules were the second most used type of BM in this study with 20 out of 25 participants using this technique. Cleaver (2006) incorporated classroom rules with sticker rewards and a color-coded behavioral system. Only after a couple of days did the students know all of the classroom rules and behavioral system. Reinforcement and support was also demonstrated with the repetition of classroom rules being enforced. Hardman and Smith (1999) also had positive results when applying classroom rules to the classroom. This current study and past research are in accordance with the effectiveness of classroom rules has on decreasing problem behavior.

Combining different types of BM (CBM, PBS, and/or reinforcement) is also proven to be effective. Cleaver (2006) combined classroom rules, sticker rewards, and a color-coded behavioral system, Ossler and Badar (1990) combined self-monitoring and self-instruction, and Michael et al. (2009) combined classroom rules with positive statements. Rewards and positive reinforcement were used together is a classroom experiment by Lannie and McCurdy (2007). Coogan et al. (2007), Fitzpatrick and

Knowlton (2009), Gable et al. (2009), and Noell et al. (2002) have combined different BM techniques as well in past research. In this study almost every participant used more than one type of BM. Twenty-four out of the 25 participants reported using more than one type. Implementing BM itself is effective, but implementing more than one type of BM may be more effective.

Limitations

There are several limitations to this study; first, is the lack of time. This study was compiled over seven months. Having an extended period of time, 1-2 years, would allow for more schools to be involved. Allowing more time would also benefit to getting specific information from teachers about their BM techniques and their effectiveness. Second, is the limited population size; having a more heterogeneous population would allow for more a possibility of more significant results. Third is the failure for each participant to answer every question. One participant did not answer question #3 and six participants did not answer question #5 on the survey. Their answers could have skewed the results positively or negatively which is an important factor for compiling and reporting results.

Future Research

Future research could improve the BM recognition in various ways. Having the resources to connect with teachers in a particular state or even country would allow for the statistics of BM to be widely represented. Resources to county and state government would permit this type of study to be compiled. The government ultimately has power over all public schools.

Observing just how effective the different BM techniques are should also be done. If researchers observed teachers using BM techniques and how receptive their students are to the different techniques used, researchers would have a better idea as to what techniques work best and with what level or grade it works best in.

Arranging a longitudinal study to see the long-term effects BM has on students as individuals would be an interesting track to entail upon. Researchers would be able to see if BM had a positive or negative effect on an individual's behavior in the school and home setting. Perhaps BM would positively affect bad behavior and turn it into good behavior in the individual's future.

Conclusions

Two out of the three hypotheses were proven to be correct; more than 60% of participants would use behavior modification resulting in a 100% participant finding and there were more than four types of BM being used, 11 total. However, BM was not effective in less than 2 months as hypothesis three stated. Conceivably having all participants respond to each question would resolve the last hypothesis' defeat.

Behavior Modification is being used at the elementary level with a wide variety of techniques. Some techniques have been used for many years and some techniques are new and upcoming. Future research and dedication to the field of BM could enhance the effectiveness, types, and usage for years to come in the future with the purpose of decreasing students' negative behaviors.

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APPENDIX

Behavior Modification at the Elementary Level

To The Participants (Please Read Before Completing the Survey):

This survey is research that is being conducted for the completion of a Master's Thesis. The purpose of this study is to see if behavior modification* is being used at the elementary level, which types are being used, and how effective it is in the classroom. The participation in this survey is voluntary and will be kept anonymous. If you do not feel comfortable answering any question, feel free not to respond to that particular question. If you have any further questions please contact the principal investigator, Ashley Hanscom, at 856-308-8861, or the faculty sponsor, Dr. Roberta Dihoff, at 856-256-4500 ext. 3783.

1. Do you use behavior modification in your classroom? (please circle)

yes no not sure

2. If you do use behavior modification, which type(s) do you use? (please circle all that apply)

sticker chart time-out self-monitoring positive statements

token economy classroom rules color-coded behavior chart

peer feedback prize/candy box self-instruction other

If other, please briefly describe/explain the technique below.

3. If you do use behavior modification, in what amount of time do you see the technique being effective in your classroom starting from the beginning of the school year in September? (please circle)

less than one week about one week several weeks about one month

about 2 months about 3-5months 5 or more months

4. What grade do you teach?

5. If you do use behavior modification, how long have you been using it?

*Behavior modification, or also known as behavior management, is used to decrease negative behavior and increase positive behavior.