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The Positive Behavioral Management Strategies Program (PBMS) for Parents, Teachers, and Caregivers: Impacts and Outcomes

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This study examined the impact of the Positive Behavioral Management Strategies (PBMS) online educational program on 624 participants in the southeastern region of the United States. The PBMS program incorporates established behavioral management principles with new research-based practices to promote healthy, positive relationships between adults and children while constructively managing and preventing problematic behavior. Additionally, the PBMS program helps parents and teachers to recognize the motivations behind misbehaviors and to avoid some common mistakes in child behavioral management. It also describes how to recognize and capitalize on "teachable moments," which are indispensable in the developmental process. A retrospective-pre-test-then-post-test design was used to reduce response shift bias when assessing knowledge and skill intervention outcomes for twenty-two behavioral management variables. The PBMS program was shown to be effective for increasing knowledge and skills related to managing misbehavior while reinforcing interpersonal relationships and fostering a sense of responsibility and capability within the child. Large changes in standardized mean effect size from before to after the intervention were documented for all twenty-two variables studied. The PBMS program showed positive outcomes to assist participants to increase their knowledge and skills in managing child behavior successfully. Implications for educators and practitioners are discussed.

Keywords: behavior management, discipline, parenting, parent education, teaching

Introduction

Consider the statements below as examples of some all-too-familiar strategies employed by parents, teachers, and caregivers while attempting to effectively manage challenging child behaviors.

- *"I thought I told you to go to bed!"*
- *"I want these toys picked up or I'm taking them all away!"*

- *"If you talk back to me one more time, you're going in time-out!"*
- *"Won't you please just listen to me?"*
- *"Because I said so, that's why!"*
- *"If you will just clean your room, we can go get some ice cream."*
- *"I want quiet now, or there will be no recess today!"*
- *"I will turn this car right around if you don't stop horsing around!*

As children develop cognitively, they discern that they are capable of decision-making. As this sense of agency strengthens, a series of power struggles, confrontations, and misbehaviors are normative. All too often, no specific, intentional strategy is put in place to manage behavior until misbehavior occurs, at which point adult intervention is often reactive, emotion-based, and/or punitive. Exasperated caregivers may find themselves attempting to cajole, compel, bribe, persuade, command, or coerce children into compliance. Despite having the best intentions for the child's well-being in mind, caregivers who respond reactively in these power struggles may be unintentionally initiating conflict trends, missing valuable opportunities to foster growth in a child's senses of both self-esteem and agency, and even inadvertently reinforcing undesirable and inappropriate behaviors.

Research has consistently validated behavioral intervention methods that allow adult caregivers to monitor and modify child behavior in ways that foster emotional, cognitive, and social development (Klevens & Hall, 2014; Roggman et al., 2008). In keeping with the goals of a positive child and youth development framework (Benson, 2006; Benson et al., 2012; Ciocanel et al., 2017; Lerner & Hillyard, 2019), the positive behavioral management strategies (PBMS) described herein have been found to be effective for decreasing unwanted behaviors while strengthening positive bonds (Bowlby, 1979; Buehler, 2020), promoting prosocial values (Smetana et al., 2019; Spinrad et al., 2019) and competence (Artschul et al., 2016; Jabagchourian et al., 2014; Weiss & Schwarz, 1996), and fostering personal agency by encouraging decision-making that builds confidence (Montano et al., 2018; Sorkhabi & Middaugh, 2014), character (Shubert et al., 2019), and well-being (Brassell et al., 2016; Buehler, 2020) while reducing risk (Payton et al., 2000; Wang et al., 2019). This paper aims to examine the impact of a behavioral management educational program (PBMS) on participants located in the southeastern United States. The goal of the program was to teach participants strategies to effectively manage child behavior while creating and maintaining a healthy relationship bond.

Review of the Literature

Behavioral Management Strategies

The PBMS programmatic model includes Roggman et al.'s (2008) three general sociocultural parenting strategies: (1) warmth, (2) connectedness, and (3) monitoring. The authors found these strategies to be essential for raising healthy children in American society (see also Rodriguez et

al., 2009; Sue & Sue, 2003). Each of these three general strategies is designed to help children feel safe, capable, and supported. Parental warmth allows children to feel that they are heard and understood, at which point they are in a better position to hear and understand. Adults' attentiveness at the individual level is important for building the trust necessary for developing a healthy, bidirectional relationship between adult and child (Turner & Welch, 2012; Werner, 2000). Parental connectedness allows caregivers to demonstrate their responsiveness and engagement with a child, affirming their authentic concern about the child's well-being through their behaviors and words (Welch & Harris, 2023). Monitoring and behavioral management allow "effective parents and teachers to set clear boundaries, offer limits with latitude, and develop accountable and responsible children through being consistent." (Harris et al., 2015a, p. 3) These strategies are valid and effective for managing behaviors in typically developing children as well as those with behavioral disorders or other clinical diagnoses (De Graaf et al., 2008; Dyches et al., 2012).

Rationale for the PBMS programmatic model is founded on principles of healthy relationships, such as Moore et al.'s (2004) description of the basic components of a healthy or unhealthy couple relationship. These same principles are often mirrored in healthy or unhealthy parent-child practices and relationships (Carlson & McLanahan, 2006; Krishnakumar & Buehler, 2008). The parent-child relationship lays the foundation for the child's developmental context in the home, classroom, community, and all other subsequent social contexts (Bush & Peterson, 2013). According to Moore et al. (2004), healthy marriages meet seven important needs. Specifically, they provide (1) physical support for growth and development; (2) a safe, secure, and nurturing environment; (3) social and emotional support; (4) positive communication; (5) positive conflict resolution; (6) positive and enjoyable time spent together; and (7) [partners] mutually committing to each other.

Four Types of Misbehaviors

In the current study, four general types of misbehaviors are foundational to understanding the potential motivations and causes behind a child's actions. They include (1) goal-getting, (2) reaction-seeking, (3) indolence, and (4) fears (Cline & Fay, 2006; Eyberg, 1992; Harris et al., 2015a; Latham,1994, 1999, 2002). Understanding a child's motivation for a given behavior, when possible, is a crucial first step to rewarding or modifying the behavior. Most child behavior motivations are centered in the goals of meeting needs, achieving autonomy, or wielding power and control. These motivations are mediated by many variables, the most important of which tend to be (1) attributions of perceived attachment to parents and (2) actual parental behavior, such as hostile and rejecting behavior or inductive reasoning and empathy (Cline & Fay, 2006; Lansford, 2019; Latham,1994; see also Pomerantz et al., 2019). Some scholars and researchers have focused on children's misbehavior as a response to specific negative stimuli, such as psychological difficulties (e.g., depressive symptoms, overt anger), dysfunctional attributions for child misbehavior, and inept or lazy discipline strategies which may result in further child

misbehavior (Leung & Slep, 2006). Leung and Slep (2006) also found that the type and condition of a caregiver's mental health were associated with trends in parenting styles. For instance, a depressed parent is more likely to employ a permissive parenting style (Leung & Slep, 2006; see also Buehler, 2020).

Four Positive Parenting Principles

Employing the three general sociocultural parenting strategies (warmth, connectedness, and monitoring) and an adapted version of Dr. Glen Latham's *Power of Positive Parenting* system (1994, 1999, 2002), the PBMS model relies on four behavioral management principles that parents, teachers, and other caretakers can use to manage child behavior effectively:

- **Principle 1:** Behavior is largely a product of its immediate environment.
- **Principle 2:** Behavior is shaped by consequences.
- **Principle 3:** Behavior is ultimately shaped better by positive than by negative consequences.
- **Principle 4:** Past behavior is the best predictor of future behavior.

Using these four general principles (Latham, 1999) as the foundation for behavioral management, the PBMS model employs specific recommended approaches for responding to negative conduct, entitled "Strategies for When Children Misbehave." These strategies include ignoring inconsequential behavior, reinforcing appropriate behavior, stopping and redirecting inappropriate behavior, and avoidance of problematic parent, teacher, and caregiving "traps" (Harris et al., 2015b, pp. 4-6; Latham, 1994, 2002).

The first strategy for managing misbehavior is to ignore inconsequential behavior that is not threatening or harmful (Latham, 1999). By ignoring inconsequential behavior, a parent, teacher, or caregiver avoids reinforcing the negative behavior by not paying attention to it. Many parents, teachers, and caregivers pay less attention to good behavior and spend more energy on rectifying misbehavior. However, responding more consistently to misbehaviors than prosocial behaviors can send unhealthy messages to children, such as misbehavior is a reliable method of "getting" or manipulating adult attention and that the role of adult authority is primarily punitive. Inconsequential behavior should be stopped or intervened with if it will (1) persist beyond simple annoyance or (2) develop into consequential (i.e., harmful or damaging) behavior (Latham, 1999).

The second strategy is to reinforce appropriate behavior within the child's immediate environment, such as by providing praise or another reward to a sibling, classmate, or other child—so that the misbehaving child also seeks to be rewarded by emulating a similar behavior (Harris, et al., 20015b; Latham, 1999). The PBMS model emphasizes the use of reinforcement rather than punishment as past studies have found that reinforcement is more efficacious (Harris et al., 2015b; Welch & Harris, 2023). The third strategy involves intervening to stop misbehavior

and redirecting it toward more appropriate conduct. When the child has been redirected and is exhibiting positive behavior, the parent, teacher, or caregiver can then positively reinforce the positive conduct (Harris, et al., 2015b; Latham, 1999). The fourth strategy is to avoid common traps to which parents, teachers, and caregivers may naturally default as they struggle with a child's misbehavior. Latham (2002) identified the following trap pitfalls in the disciplinary process: (1) criticism, (2) sarcasm, (3) threats, (4) logic, (5) arguing, (6) questioning, (7) verbal or physical force, and (8) despair, pleading, or helplessness. These tactics can mark a deterioration of an adult's level of calmness and control of the situation and thus trigger the beginning of a power struggle (Harris, et al., 2015c).

In addition to Latham's behavioral management principles, the PBMS model also employs Love and Logic strategies by Cline and Fay (2006), who identified five steps in the conflict resolution process that can be effectively used by adult parents, teachers, and other caregivers. The first step in the Love and Logic approach to behavior management is empathy, a strategy in which parents, teachers, and caregivers discuss children's behavior sympathetically. This approach helps initiate a dialogue "rather than [to let] judgment and condemnation guide the negotiation of conflict" (Harris et al., 2015c, p. 3). The second step is to signal to the child that they have ownership over the situation and power to change their conduct by asking, "What are you going to do about this problem?" (Cline & Fay, 2006; Harris et al., 2015c, p. 3). The third step is to offer empowering choices, particularly when a child responds with uncertainty to the previous question. The fourth step is to have the child state the consequences of each proposed course of action, allowing the child to fully understand and assess the results of their potential decisions. The final step is to give permission for the child to solve the problem, allowing the child to make the final decision for how to solve their problem or change their behavior (Cline & Fay, 2006; Harris et al., 2015c).

Another core Love and Logic concept incorporated into PBMS is a series of four principles, represented by the acronym **C**.**O**.**O**.**L**. (**C**ontrol, **O**wnership, **O**pportunity, and **L**etting), which include sharing an appropriate degree of **C**ontrol with the child to promote a child's **O**wnership of the problem, providing **O**pportunities for executive decision-making on the part of the child, and then **L**etting consequences and an empathetic parent, teacher, or caregiver attitude teach the lesson at hand (Cline & Fay, 2006). More specifically, the "C" represents shared control between the parent, teacher, or caregiver and the child and is an important deviation from the authoritarian management approach in which the adult's will completely overwhelms any executive control by the child. Sharing control can be accomplished by presenting a child with a series of choices when they are faced with a problem instead of enacting a show of adult force (e.g., "my way or the highway") which a child will automatically resist or argue against, leading to one of the aforementioned power and control "traps," such as arguing, questioning, and criticism.

Shared control allows both parent, teacher, or caregiver and child to acknowledge that a child does have choices in situations. The power of choice through shared control then creates a way

for the child to assume ownership of the problem (represented by the "O"), meaning that the adult is no longer responsible for or the sole experiencer of the situational outcome. The parent, teacher, or caregiver can signal ownership of the problem to the child by empathizing with the difficulty of the problem and acknowledging its seriousness while not undertaking to "fix it" or to influence its solution. This is not the same as disengaging and distancing, however, as if to abandon the child to cope with their problem alone.

Warmth and connectedness must be maintained to communicate that the parents, teachers, and caregivers do indeed care about the solutions and outcomes and that they are available to provide support and guidance while sharing control. An example would be asking, "Would you like to know how some people solve problems like this?" as opposed to telling the child what they should do. As a result, the child has a stake in the outcome of the choice he or she made or will make. This investment promotes evaluative thinking on the child's behalf by creating a motivation for the child to think and evaluate his or her options instead of merely obeying or resisting a parent's, teacher's, or other caregiver's command.

The adult must then enact the "Opportunity" step or, in other words, provide the child an opportunity to think through his or her choice, using prompts like "Okay, how will you make that happen?" or "How do you think it will work out if you try to solve the problem that way?" This invites the child to employ logic and make testable predictions about their formulated plan of action in a safe environment with the parent, teacher, or caregiver as a supportive mentor rather than dictator.

The "L" represents the principle of "letting" consequences and empathy teach the needed lesson(s) to the child. At this point, parents, teachers, or caregivers must step back and allow the child's plan of action to be carried out and either succeed or fail. In the event of failure, a significant learning opportunity (SLO) is created for a child to reflect on his or her chosen strategy and for the parent, teacher, or other caregiver to offer further support and mentoring without undermining the child's sense of capability (Cline & Fay, 2006).

The Love and Logic approach represents a vast improvement over traditional methods of parenting in which children are assigned an "observer" role while the adults assume full control over potentially consequential situations, or instinctively insulate children from negative outcomes with the intention to protect or overprotect them. In the PBMS approach, a child's executive control, capability, and responsibility are all developed when problems and conflict arise, even when outcomes are positive, but more particularly when they are negative.

Four steps to responsibility, related to the C.O.O.L. approach, are outlined as follows: Step one is to give the child an appropriate task that they can handle and ask them to describe how they believe the finished task will look. Step two involves monitoring the task attempt, as a failure will again create a significant learning opportunity, with a real-world consequence to the child. Attempting the task provides an opportunity for a child to see that failure is real and possible,

and that they must develop ways to process, negotiate, and manage failure when it happens. At younger ages, such lessons are extremely valuable because the costs associated with failure increase with age and responsibility. Step three is to respond to the situation without anger. Parent, teacher, or caregiver anger gives a child a target to which they can attribute their discomfort, even to the point of playing a victim role. Allowing the consequences to unfold and showing empathy for the situation redirects the energy of the situation towards solutions rather than towards a conflict with children as targets or victims. Step four involves trusting the child with the same task again. This communicates the confidence of the parent, teacher, or caregiver and allows the child to understand that a failure is not final or a definitive result; there will be more chances to try again and to improve outcomes, thus promoting capability, self-efficacy, and self-concept (Cline & Fay, 2006).

Telep (2009) advocated for disciplinary measures that are healthy and constructive so that misbehavior results in benefits to both the parent, teacher, or caregiver and the child, rather than becoming adversarial or antagonistic. This positive framing and reframing of misbehavior as a constructive learning opportunity also allows for the child to take responsibility for their own behavior while maintaining warmth between the adult and the child. Telep's research offers four main strategies in response to misbehavior: (1) divert to a positive model, (2) deliberately ignore provocations, (3) state consequences firmly, and (4) provide renewal time. Additionally, Telep (2009) advocated several responses to misbehavior, including to "be detached…as if you are your child's aunt or uncle" (pp. 4-5). This approach, the positive parenting system, and the Love and Logic framework, all target the response and interaction between the parent, teacher, or caregiver and the child, as do the foundations of the PBMS training model, including its focus on positive attention, high expectations, and using relational elements to improve the parent-child, teacher-student, or caregiver-child relationship.

Positive Behavioral Management Strategies (PBMS) Curriculum

The PBMS coursework (Harris, 2016) is arranged into three modules which introduce the four main types of misbehaviors, their motivations, and the strategies for behavioral management. Each module includes a video lecture segment paired with lesson guides, activities, and reading material and concludes with a quiz on the module content. Module 1 explores *4 General Types of Misbehaviors*, *Healthy Parent-Child—Teacher-Student Relationships,* and *Short-term and Long-term Outcomes* of positive parenting. Module 2 covers *4 Principles of Positive Parenting* and *Strategies for When Children/Students Misbehave and Behave Well*. Module 3 investigates *5 Steps to Responsibility*, *C.O.O.L. Principles of Managing Behavior*, and *5 Steps to Conflict Resolution* (see www.smartcouples.org "Classes").

Specific Description and Synthesis of PBMS Coursework

The coursework begins with a classification of misbehaviors into four main types, each of which has a different main objective and motivation which must be understood before an effective

behavioral management strategy can be chosen and deployed. After these misbehavior classifications are identified and explored, three key strategies of effective parenting—warmth (e.g., empathy, availability), connectedness (e.g., responsiveness, encouragement), and monitoring (e.g., consistency with discipline and setting boundaries)—are explored. These three strategies must be consistent throughout caregiving if healthy adult-child relationships are to be maintained (Roggman et al., 2008).

A distinction is drawn in the PBMS model between two important classifications of consequences—natural and logical. Many parents will instinctively attempt to protect children from failure and negative consequences. Situations in which natural or logical negative consequences arise are referred to as significant learning opportunities (SLOs) by Cline and Fay (2006). Failure is one of the most important SLOs a child is likely to encounter. The PBMS coursework includes methods for building a sense of responsibility in the child by giving tasks in which failure can be anticipated, followed by allowing natural and logical consequences to take place, while then offering empathetic guidance before assigning the tasks again. In this way, failure becomes a constructive tool for growth and learning.

Protecting the child from consequences, with the exception of intervening in potentially consequential or harmful situations, often results in missed opportunities for the parent, teacher, or caregiver to pair the consequences with the child's decision(s), which can lead to undermining the development of the child's senses of capability and responsibility. Criticism deteriorates the warmth and connectedness between the adult and the child. Combining insulation from consequences with criticism is likely to give rise to patterns of irresponsibility and lowered perceptions of capability, self-efficacy, and self-esteem.

Another research-based "rule of thumb" in PBMS is the 8-to-1 positive-to-negative interaction ratio (Latham, 2002). In other words, for a healthy and warm relationship to be maintained between parent (or teacher/caregiver) and child, there should be at least eight positive interactions for every negative one. This ratio can be quantified in terms of elapsed time as well. For example, if a parent, teacher, or caregiver spends 20 minutes negatively interacting with a child, a minimum of 160 minutes of positive interaction are needed to re-balance the warmth of the relationship. The interaction ratio rule also promotes adult practices of actively acknowledging children's positive behavior instead of reserving attention for designing and implementing consequences for negative behavior (Latham, 1994, 1999). It should be noted that this interaction ratio is also true of other relationships such as the coparent relationship, although it has been set 5-to-1 positive-to-negative interactions or higher (Gottman, 1994).

The purpose of the current study was to examine the impact of the Positive Behavioral Management Strategies (PBMS) online educational program on participants in the southeastern region of the United States. As noted above, the PBMS program incorporates established behavioral management principles with new research-based practices designed to promote

healthy and positive relationships between adult parents, teachers, and caregivers with children, while constructively managing and preventing problematic behavior. Additionally, the PBMS program assists parents and teachers to recognize the motivations behind a wide range of misbehaviors. The program also offers forewarning of some of the most common mistakes (or "traps") in child behavioral management and describes how they can be avoided. Further, it explains how to recognize and capitalize on "teachable moments," which are indispensable in the developmental process.

Method

Target Populations and Demographics

The target population for the PBMS educational program intervention included anyone (n = 624) who regularly had repeated interactions with children, such as parents, teachers, and caregivers. The PBMS intervention and practices were specifically developed for non-professionals with no clinical training, but could also be used by therapists, counselors, or other practitioners.

The PBMS model and online coursework are applicable in their standard format to the target populations studied. While age-appropriate language and methods of approach must certainly be applied, the principles and strategies taught are valid for children of all communicative ages. The coursework is tailored with consideration primarily for parents and prospective parents and for teachers, but is also designed for other types of caregivers (e.g., nannies, daycare providers).

Demographics of the sample included 472 females (75.6%) and 86 males (13.8%), with 10.6% of the sample choosing not to identify their gender (Table 1). The sample was predominantly single, in their early twenties, and diverse with regard to race and ethnicity. Participants included those who were preparing to become parents, educators, human services professionals, and practitioners who were currently, or would be, working with children and youth someday.

Table 1. Demographic Description of PBMS Participants (n = 624)

Characteristics	***n***	**%**
Gender		
Female	472	75.6
Male	86	13.8
Missing Data	66	10.6
Age		
18	9	1.4
19	97	15.5
20	182	29.2
21	177	28.4
22	50	8.0
23	11	1.8
24	9	1.4

Characteristics	*n*	%
25	4	0.6
26	6	1.0
29	3	0.5
Over 30*	3	0.6
Missing Data	73	11.7
Marital Status		
Single	531	85.1
Married	20	3.2
Divorced	0	0.0
Partnered	5	0.8
Widowed	1	0.2
Separated	1	0.2
Missing Data	66	10.6
Income Level		
Under $20,000	262	42.0
$20,000-$39,999	61	9.8
$40,000-$59,999	56	9.0
$60,000-$79,999	39	6.3
$80,000 or more	137	22.0
Missing Data	69	11.1
Education Level		
Less than high school	2	0.3
High school diploma/GED	184	29.5
2-year college degree (Associate's)	313	50.2
4-year college degree (Bachelor's)	57	9.1
Graduate or professional degree	1	0.2
Missing Data	67	10.7
Race/Ethnicity		
White	324	51.9
Black	92	14.7
Hispanic/Latino	105	16.8
Asian/Pacific Islander	19	3.0
Native American	2	0.3
Other	14	2.2
Missing Data	68	10.9

Sampling

Participants were sampled primarily from the SMART Couples relationship education (CRE) courses which are made available to the public and university students through a major university in the southeastern United States. These courses were designed to serve people in a wide variety of relationship statuses and at different life stages.

Design

Due to the nature of the variables of interest, an important aspect of this study was the inclusion of the retrospective pre-then-post-test design rather than the traditional pretest and posttest before and after the PBMS intervention. Specifically, participants were given a side-by-side pretest and posttest immediately after completion of the program. Response shift, as described by George S. Howard, is "a treatment-produced change in the subject's awareness or understanding of the variables being measured" (Howard et al., 1979, p. 1). Response shift bias poses a significant threat to internal validity, particularly when subjects are being introduced to new information or abstract concepts, such as an understanding of what constitutes effective monitoring or parental connectedness, as opposed to concrete concepts such as income level or the number of children one has. A traditional pretest/posttest design could potentially generate response shifts as respondents would likely be unfamiliar with Love and Logic steps and other principles introduced in the PBMS program. The pretest would, therefore, be collected without the context of a conceptual grasp of the topics as opposed to the posttest, after all new concepts have been presented and explained. The resulting shift would mask real changes in understanding affected by the intervention, thus invalidating the results.

Conversely, the retrospective design allows new concepts to be introduced and for participants to introspectively respond to the changes in understanding they have undergone over the course of the intervention. Response shift bias, which can affect anyone who gives responses before and after a change in their understanding (i.e., by learning) is not to be confused with the Dunning-Kruger effect, in which respondents with lower cognitive abilities are more likely to overestimate their mastery of a concept (although the retrospective pre-then-post design can help control for this effect, as well).

Measure

The 22-item PBMS self-report instrument designed and used for this study distinguishes between the cognitive aspects of understanding the principles taught and understanding how to apply them, as well as confidence levels in applying the principles to real-life situations, and then practicing them behaviorally through skill development. Each item contains a statement of understanding of, confidence with, or application of principles and practices covered by the curriculum, with which participants agreed or disagreed using a 5-point Likert scale response system ranging from "strongly disagree" to "strongly agree."

Cognitive Skills

The cognitive aspects of the content are addressed by items in the instrument concerning participants' understanding of the principles and strategies covered. These include items such as "I understand how to identify consequential and inconsequential child behaviors," "I understand

how to avoid parent/teacher traps," and "I understand how to use C.O.O.L. in Love and Logic." Nine items regarding respondents' understanding of concepts were included in the measure.

Behavioral Skills

The behavioral content included items specific to parenting behavior, such as "I effectively stay connected with children," "I effectively identify consequential and inconsequential behavior," and "I effectively acknowledge appropriate behavior and stop, redirect, then reinforce consequential behavior." Eight of the PBMS items are specific to behavior.

Overall Skills

Overall parenting skills are measured with items such as "I use Positive Behavioral Management Strategies effectively to manage child behavior" and "I use Positive Behavioral Management Strategies to increase positive interaction." Five items are included for self-assessment of overall parenting skills relevant to the lessons of the PBMS curriculum. The full list of assessment items is included in Table 2. The changes in self-report scores are shown in Figures 1–4, ranked in descending order, all of which indicated positive shifts in standardized mean effect size from before to after the PBMS intervention at the $p < .001$ level.

Analysis

The pretest-then-post-test scores for each participant were analyzed using a paired-samples *t*-test to measure shifts in self-reported confidence in the concepts and strategies covered by the curriculum. The instrument was divided into item groups covering cognitive, behavioral, and overall application aspects of PBMS. The instrument is also sensitive to participants' confidence levels in their effectiveness in child monitoring and avoiding parent, teacher, or caregiver traps and to their perceptions of how well they actively implement their understanding.

Results

The most pronounced changes in participant self-reports were observed in behavioral items (Table 2), including effectively avoiding parent, teacher, and caregiver traps ($t = 11.33$, $p < .001$, $d = 1.45$); using C.O.O.L. principles in Love and Logic effectively ($t = 10.64$, $p < .001$, $d = 1.35$); and using PBMS to decrease negative interaction ($t = 10.29$, $p < .001$, $d = 1.31$) and in cognitive items including understanding the 5 steps of Love and Logic ($t = 10.62$, $p < .001$, $d = 1.35$), understanding how to avoid power and control traps ($t = 10.46$, $p < .001$, $d = 1.33$), and understanding how C.O.O.L. is to be used in real-world settings ($t = 10.30$, $p < .001$, $d = 1.31$). Notably, the effect sizes for all 22 items were found to exceed Cohen's convention for a large effect ($d = .80$), and all findings were significant at the $p < .001$ level, increasing the study authors' confidence that Type I and Type II errors had generally been avoided.

Table 2. Results of PBMS Retrospective Pretest to Posttest Change: Before and After Programming (n = 599-624)

Knowledge Change	Retrospective Pretest Mean Score (*SD*)	Posttest Mean Score (*SD*)	Mean Change (*SD Pooled*)	*t*	*p*	Cohen's *d*
I understand how to show warmth to children.	3.72 *(0.81)*	4.53 *(0.69)*	0.82 *(0.75)*	-25.03	<.001	1.08
I understand how to stay connected with children.	3.49 *(0.83)*	4.43 *(0.62)*	0.94 *(0.73)*	-29.22	<.001	1.29
I understand how to monitor children effectively.	3.46 *(0.94)*	4.46 *(0.64)*	0.99 *(0.78)*	-27.72	<.001	1.28
I understand how to identify consequential/inconsequential child behavior.	3.08 *(0.97)*	4.43 *(0.62)*	1.35 *(0.82)*	-33.61	<.001	1.66
I understand how to acknowledge appropriate behavior and to stop, redirect, and reinforce consequential behavior.	3.17 *(0.97)*	4.43 *(0.62)*	1.27 *(0.82)*	-32.22	<.001	1.55
I understand how to avoid parent/teacher traps.	2.79 *(1.03*	4.35 *(0.64)*	1.56 *(0.85)*	-35.59	<.001	1.83
I understand how to use C.O.O.L. in *Love and Logic*.	2.62 *(1.07)*	4.32 *(0.69)*	1.70 *(0.90)*	-36.62	<.001	1.90
I understand the 5 Steps of *Love and Logic*.	2.75 *(1.06)*	4.32 *(0.67)*	1.58 *(0.89)*	-35.06	<.001	1.77
I understand how I could effectively use Positive Behavioral Management Strategies with children.	3.22 *(0.96)*	4.45 *(0.60)*	1.22 *(0.80)*	-31.74	<.001	1.54
I effectively show warmth to children.	3.75 *(0.86)*	4.46 *(0.63)*	0.71 *(0.75)*	-21.77	<.001	0.94
I effectively stay connected with children.	3.58 *(0.88)*	4.38 *(0.67)*	0.80 *(0.78)*	-23.75	<.001	1.02
I effectively monitor children.	3.51 *(0.90)*	4.37 *(0.68)*	0.86 *(0.80)*	-24.24	<.001	1.08
I effectively identify consequential/inconsequential behavior.	3.13 *(0.98)*	4.35 *(0.63)*	1.23 *(0.82)*	-30.61	<.001	1.49
I effectively acknowledge appropriate behavior and stop, redirect, and reinforce appropriate behavior.	3.19 *(0.95)*	4.35 *(0.64)*	1.16 *(0.81)*	-29.92	<.001	1.43
I effectively avoid parent/teacher traps.	2.93 *(0.97)*	4.26 *(0.68)*	1.33 *(0.84)*	-32.11	<.001	1.59
I use C.O.O.L. in *Love and Logic* effectively.	2.74 *(1.01)*	4.22 *(0.71)*	1.48 *(0.87)*	-33.85	<.001	1.70
I use the 5 Steps of *Love and Logic* effectively.	2.81 *(1.02)*	4.23 *(0.72)*	1.42 *(0.88)*	-32.82	<.001	1.62

I use *Positive Behavioral Management Strategies* effectively with children.	3.18 *(0.94)*	4.33 *(0.65)*	1.15 *(0.81)*	-29.85	<.001	1.42
I use *Positive Behavioral Management Strategies* to increase positive interaction in my relationships.	3.27 *(0.92)*	4.35 *(0.63)*	1.09 *(0.79)*	-29.30	<.001	1.37
I use *Positive Behavioral Management Strategies* to decrease negative interaction in my relationships.	3.24 *(0.91)*	4.33 *(0.63)*	1.09 *(0.79)*	-29.51	<.001	1.39
I use *Positive Behavioral Management Strategies* to increase positive bonds (friendship) in my relationships.	3.37 *(0.90)*	4.35 *(0.64)*	0.97 *(0.78)*	-27.66	<.001	1.25
I use *Positive Behavioral Management Strategies* to increase happiness and satisfaction in my relationships.	3.35 *(0.90)*	4.36 *(0.62)*	1.02 *(0.77)*	-27.81	<.001	1.30

Note. Effect Size Change (*d*): .20=small; .50=medium; .80 or higher=large

Figures 1–4 include additional information indicating ordered change in cognitive understanding, effectiveness, and use of the skills that were accredited to the PBMS program intervention. Identifying these ordered changes allowed the researchers to detail the results of the program and what future changes could or needed to be made to increase effectiveness in specific areas. For example, (1) understanding and being effective at promoting warmth, (2) staying connected with children, and (3) monitoring their behaviors showed the lowest increases from before to after the program intervention, indicating that more time and effort needed to be spent discussing specific ways parents and teachers can meet these three objectives.

Figure 1 highlights the ordered change in the interconnections between knowledge and skills gained as a result of the PBMS intervention, evidencing the importance of not only disseminating knowledge but also allowing program participants to develop their behavioral management skills. Figure 2 specifically showcases the ordered change levels of skill development due to the PBMS intervention. Note the specific skills related to avoiding control and power traps and the development of the abilities to identify consequential and inconsequential behaviors. Figure 3 underscores the need to understand behavioral management practices before skill development can occur. PBMS program participants identified knowledge gains in C.O.O.L. and other Love and Logic strategies as particularly helpful. Figure 4 shows ordered change in “actual use” increases from before to after the intervention. Levels of decreased negative interaction, increased positive interaction, bonds, and happiness and satisfaction are tracked across all SMART programs in order to compare and contrast the effectiveness of each program.

Figure 1. Ordered Change in Overall Positive Behavioral Management Strategies

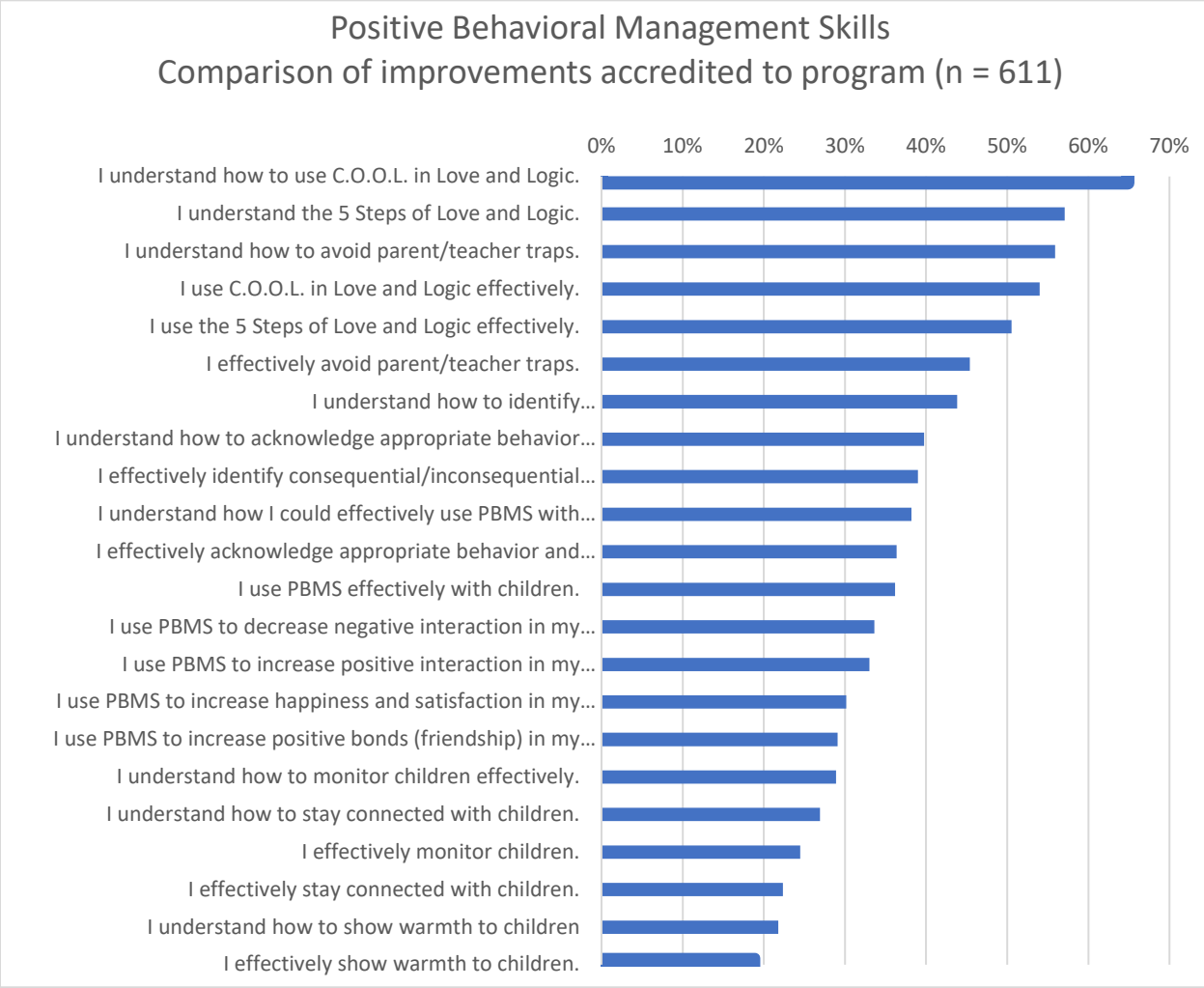


Figure 2. Ordered Change in Effectiveness of Positive Behavioral Management Strategies

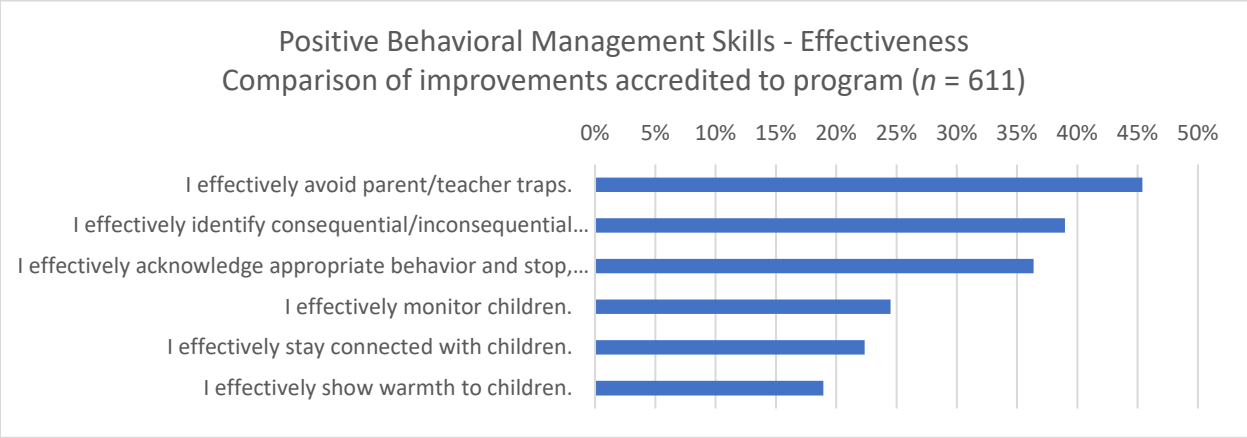


Figure 3. Ordered Change in Understanding of Positive Behavioral Management Strategies

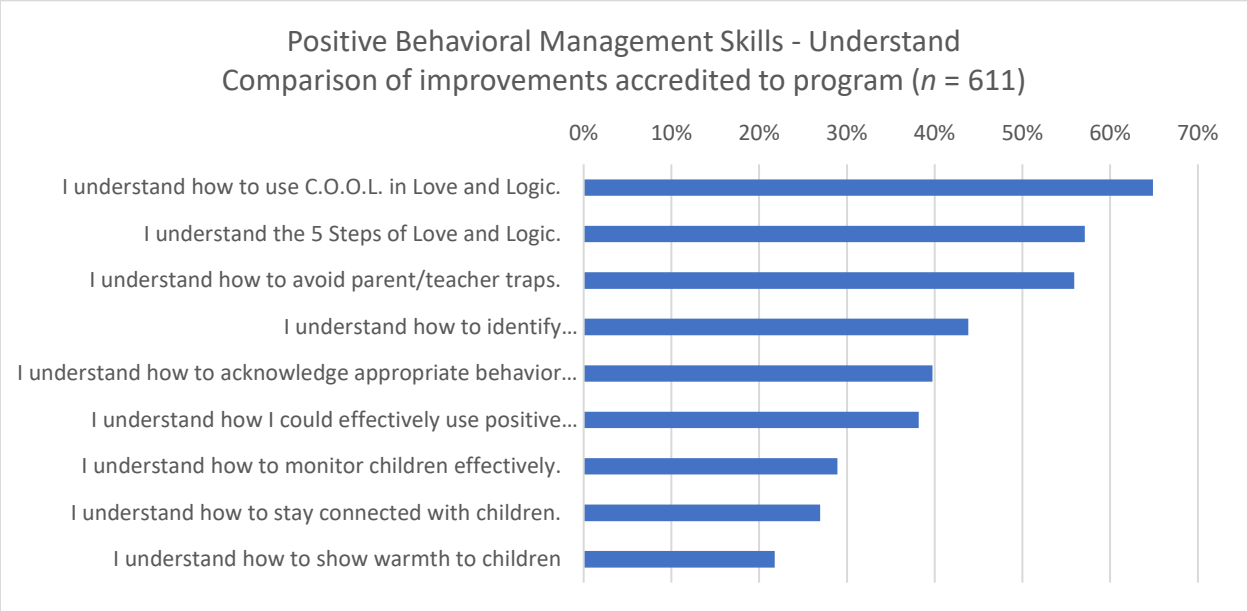
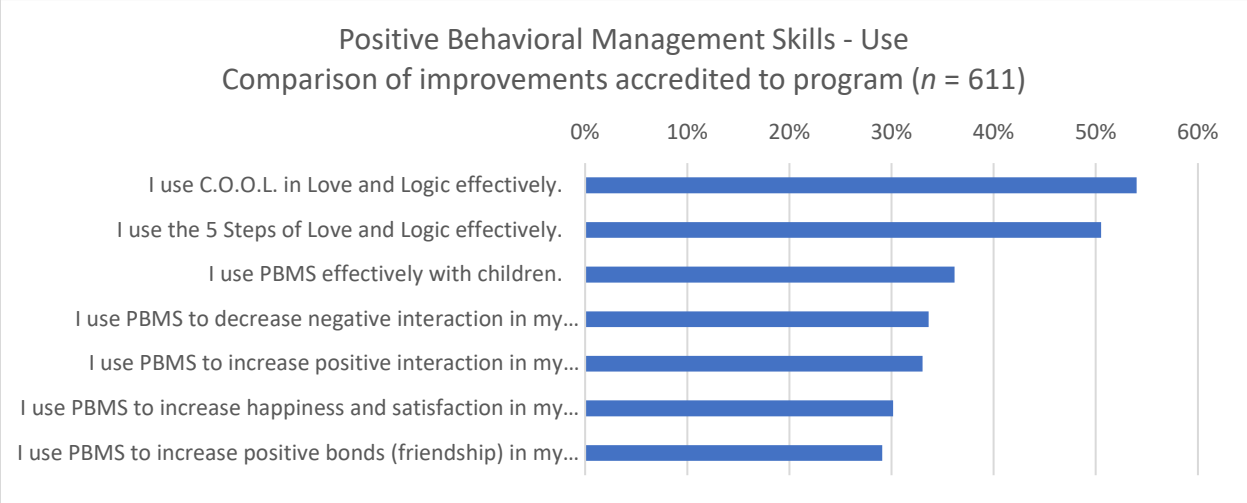


Figure 4. Ordered Change in Use of Positive Behavioral Management Strategies



Discussion

The PBMS educational program intervention was shown in the current study to be effective for increasing knowledge and skills related to managing misbehavior while reinforcing interpersonal relationships and fostering a sense of responsibility and capability within the child. Large changes in standardized mean effect size from before to after the program intervention were documented for PBMS participants on all twenty-two variables studied.

Reinforcement via reward and punishment have typically been accepted as two similarly effective sides of the same behavior-shaping coin. The purpose of the current study was not to suggest that punishment has no place in behavior modification, but to report the findings that

indicated that positive reinforcement approaches are generally perceived as more efficacious to behavior modification than punitive measures are as deterrents. The results of this study showed that PBMS not only has applicability as a remedial approach for extinguishing problem behaviors, but also as a prevention method to be taught to parents, future parents, teachers, and child caregivers. Use of PBMS as an intervention can allow these groups to focus on positive adult-child affirmations while permitting consequences to play out logically and naturally (Latham, 1999). Facilitating child learning and decision-making through exploring and experiencing choices and consequences, rather than required submission to instruction, rules, and persuasion alone, promotes a sense of shared control, ownership of problems, responsibility for behavior, and opportunities for growth and mature development (Cline & Fay, 2006; Telep, 2009).

By specifically identifying participants' perceived understanding, effectiveness, and use of the strategies in the PBMS program, the authors of this programmatic intervention were able to pinpoint which areas of the programming are most useful. For example, Figures 1–4 indicated that following the PBMS intervention, participants generally understood the major components of the program such as C.O.O.L. and the 5 Steps of Love and Logic. Participants also indicated that the PBMS intervention increased their effectiveness or confidence in effectively using the behavioral management strategies, such as to avoid parent, teacher, or caregiver traps and to identify consequential and inconsequential behaviors. Finally, participants indicated that the PBMS program generally increased their positive interactions, bonds, and satisfaction and decreased the negative interactions in their relationships.

Skill development in the use of PBMS can help participants become mindful caregivers who can learn to introspectively question their approaches. For example, they may question whether a behavior is actually consequential (harmful) or inconsequential (merely annoying), be attentive to what purpose their responses to child behavior are actually meant to serve, consider what effects their responses to child behaviors may actually be having, and be mindful of what messages are being transmitted to the child via their interactions with them. The purpose of the PBMS program intervention is not just to provide parents, teachers, and caregivers with a means to manage children's behaviors but to help them impart to children the skills and competencies necessary to effectively govern themselves.

Limitations and Implications

The use of the PBMS program as a positive youth development approach for the reduction of negative outcomes has clear implications for caregivers of children of all ages and communicative stages of development. One limitation of the current study is that the retrospective pretest-then-posttest design is subject to multiple internal validity threats. However, while admittedly subjective in nature, using a retrospective pretest-then-posttest design allows participants to more accurately assess changes in the attitudes, behaviors, or skills learned during

a program by comparing each specific variable side-by-side at the end of the intervention. Because quasi-experimental research designs are often cost- and time-prohibitive in social science implementation research, using a pretest-then-posttest at program exit represents a positive and low-cost design approach for avoiding response shift bias (RSB) and achieving more valid programmatic results.

It is not only important for community outreach relationship researchers and practitioners to better understand the implications of RSB on their specific program outcomes, but also for participants to realize that they may overestimate their ability to develop, nurture, and protect their relationships prior to their participation in outreach programming. Using a retrospective-pretest-then-posttest design at the end of programming allows participants to evaluate thinking and behaviors from before to after programming, motivating them to continue applying what they have learned to promote healthy and successful relationships, as well as to seek additional learning and skills. For this reason, the SMART Couples Project website (https://smartcouples.ifas.ufl.edu/) was developed to provide participants with additional free relationship education courses as well as up-to-date, real-time, research-based information from which they can benefit.

Future recommended directions include conducting the PBMS program with parents, teachers, and caretakers of children and youth who have received a developmental diagnosis. Because of its positive behavioral management focus, the study authors would like to explore how PBMS can be implemented by caregivers of children and youth with or without diagnoses of developmental disorders and how PBMS principles can be disseminated without intensive training to caregivers who do not have a background in mental health or child development.

Conclusion

The PBMS program showed positive and ordered impacts and outcomes for assisting participants in the sample studied to increase their knowledge and skills in managing child behavior successfully. The PBMS program represents another free resource for those who might wish to increase their behavioral management competencies or to effectively develop their parenting, teaching, or caretaking outreach programs using the PBMS methodological design.

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