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ORIGINAL PAPER

Maternal Knowledge and Behaviors Regarding Discipline: The Effectiveness of a Hands-on Education Program in Positive Guidance

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Abstract This study examined which method is most effective in supporting parents to use positive guidance techniques, a lecture-based only parent training series or a lecture-based plus hands-on parent training series. Maternal characteristics of depression, stress level, and attitudes towards positive guidance were explored as possible moderators. In this sample of 49 mother–child dyads, results indicated that the cognitive understanding of the use of positive guidance over time of the participants in the lecture-based only versus the lecture-based plus hands-on groups did not significantly differ. However, both groups improved in their cognitive understanding of positive guidance over time. Results also indicated that the behavioral use of positive guidance over time of the participants in both groups significantly differed. Further investigation revealed that, although the two groups did not differ in their behavioral use of positive guidance before the program, the lecture-based plus hands-on group improved over time whereas the lecture-based only group did not. Depression, stress level, and attitudes towards positive guidance did not moderate the effects of being in either group on participants' behavioral use of positive guidance. Findings showed that all participants gained a better understanding of effective parenting techniques, but a hands-on component in parent training programs may be necessary for parents to incorporate these strategies into their parenting behaviors. The results have implications for early childhood professionals working with parents to address children's behavior issues, as well as for the design of parent-support programs.

Keywords Parent education · Positive guidance · Discipline · Teacher education · Child behavior

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Introduction

Over 94 % of parents use physical punishment to discipline their children (Straus and Stewart 1999). Yet, extensive research has shown physical punishment to have negative long-term effects on children (Flicker and Hoffman 2002; Gershoff 2002; McLoyd et al. 1994). Children who are punished physically are more aggressive than other children (Patterson 1982), have poorer relationships with their caregivers (Parke 1977) exhibit more depression (McLoyd et al. 1994), and report more negative social relationships in adolescence (Leary et al. 2008). Many parents believe that their only alternative to physical punishment is permissiveness. Just as physical punishment is detrimental to children, extensive research has shown permissive parenting to be linked with negative child outcomes (Morrongiello et al. 2006), such as decreased emotion regulation, increased aggression, substance abuse, and school misconduct (Lamborn et al. 1991; Patock-Peckham et al. 2001), and an inability to learn boundaries and consequences (Flicker and Hoffman 2002).

An alternative way to help children avoid maladaptive outcomes is the use of positive guidance techniques, such as logical and natural consequences, reasoning, conflict negotiation, choice-giving, use of positive language, and clear limit setting, which can all be implemented within a framework of respect, trust and sensitivity to individual and

cultural differences (Flicker and Hoffman 2002; Gartrell 2002). The highest quality early childhood centers in the US and abroad advocate the use of positive guidance. In fact, the National Association for the Education of Young Children (NAEYC) requires that positive guidance and developmentally appropriate practices be used by early childhood educators in nationally accredited early childhood education programs (Copple and Bredekamp 2009). Additionally, many undergraduate programs that educate pre-service early childhood professionals emphasize the use of positive guidance (McFarland et al. 2009). However, few parents receive information on how to use positive guidance techniques, and many repeat maladaptive responses that they experienced as children (Covell et al. 1995). Given the benefits of positive guidance, parents could respond more effectively to their children's behavior by using some of the same strategies in their parenting. The purpose of this parenting intervention study is to test the hypothesis that inclusion of a hands-on training component, in which parents interact directly with young children and receive feedback from professionals, will prove more effective in increasing parents' actual use of positive guidance with their own children, compared to simply learning about positive guidance in a lecture.

What is Positive Guidance, and Why Should Parents Use It?

Because positive guidance avoids punitive responses and the use of negative or controlling language, it is often misconstrued as permissive (Ehrensaft 1997). However, positive guidance involves "setting boundaries and limits in a fair way, based on developmentally appropriate expectations and individual needs" (McFarland et al. 2008, p. 207). The use of positive guidance models respect of self and others, problem solving in productive ways, working cooperatively in groups, making ethical decisions about behavior, and expressing strong emotions appropriately (Wittmer and Honig 1994). Positive guidance also involves using language that is clear, direct, and culturally and developmentally appropriate. An adult and child engaged in conversation may have different ideas about what a particular term means if it is imprecise. Clear use of language includes substituting negative language with positive language, for example, telling children what to do instead of what not to do, such as saying "Please walk" instead of "No running". Avoidance of negative language, such as 'no', 'stop', and 'don't' is important because children who are told only to stop their behavior do not hear possibilities for alternatives (Gartrell 1994).

Also, instead of externally reinforcing children with praise, positive guidance focuses on encouraging children through internal motivation, which allows children to assess their own actions as well as the process and effort involved in their activities (Dreikers 1964; Wolfgang 2004). For example, an adult might say, "It looks like you worked really hard to solve that problem", rather than, "Good job, you're so smart". This type of feedback encourages the child's effort instead of simply placing a label on the child. Additionally, rewards for "good" behavior are not a part of a positive guidance framework because rewards may motivate children to behave a certain way in order to get the reward, rather than being motivated internally.

Another positive guidance strategy involves offering choices, which helps children feel as though they have some control in the situation, thus increasing the likelihood of desired behavior. However, adults should offer children choices only when they actually have a choice. In addition, choices should be kept simple. For example, "Would you rather wear your red shirt or your blue shirt today?"

There is empirical evidence that specific aspects of a positive guidance approach are more effective than harsh and controlling approaches. A parental discipline style involving positive support, emotional warmth and structure is related to high levels of cooperation, self-control, and independence (Aunola and Nurmi 2005; Denham et al. 2000; Feldman and Klein 2003; Rubin et al. 2003). Toddlers who experience sensitive and supporting discipline have better self-regulation (Calkins and Johnson 1998) and are less aggressive (Crockenberg and Litman 1990). Research conducted in early childhood centers has found that teaching staff who used controlling methods of discipline experienced higher rates of behavioral problems in children compared to teaching staff who used a guidance approach (Porter 1999). Compared to children who experience controlling discipline, those who are exposed to guidance have better emotional adjustment and are more resilient when facing change (Kaufmann et al. 2000; Propper and Moore 2006). The use of guidance is also related to more sophisticated moral reasoning (Walker et al. 2000).

How can Parents Best Learn Positive Guidance Strategies?

The majority of parent education programs are presented in a didactic seminar or lecture format, sometimes coupled with a discussion group (Drugli and Larsson 2006; McIntyre 2008). Lecture-based interventions provide participants with education, whereas discussion groups combine an educational agenda with a support group. Although this style of discussion group and/or lecture format has been shown to increase the social competence of high-risk elementary school children (Reid et al. 2007) and reduce stress (Eisen et al. 2008) and depression (Hayes et al. 2008) in parents, it may not change parents' actual parenting

behaviors. For example, one lecture-based training program offered through the child welfare system found that lecture and discussion alone may lack features necessary for parents to change their practices (Casanueva et al. 2008).

Instead, parent educators have recommended that *interactive* approaches to parent education are more likely to result in changes in parenting behavior in comparison with more didactic, classroom-based approaches (Child Welfare Information Gateway 2008; Schorr 1998). According to Schorr (1998), interactive parent education must be individualized and flexible in response to lessons learned and changing circumstances. Methods used in interactive approaches vary widely, but typically include active modeling and role-playing of effective parenting practices, and use of generic videos showing challenging parenting situations and effective parenting practices, as well as group discussion and feedback from professionals (Child Welfare Information Gateway 2008). One particularly effective method of interactive parent training has been the use of individualized video feedback (IVF) (Marvin et al. 2002; Phaneuf and McIntyre 2007; Velderman 2005). In this method, parents are videotaped as they interact with their children, and they later review the videotapes with trained parent educators or therapists. Parents are given feedback and asked to generate alternative, more effective parenting strategies that they could have used. This method has been shown to be more effective than interactive approaches that use less individualized strategies, including group discussion, modeling and role-playing (Phaneuf and McIntyre 2007).

Although they have been more effective than didactic parent education programs in changing parenting behavior, we argue that the interactive techniques used in most parent education intervention studies, including those using IVF, still have two significant shortcomings that may lessen the likelihood that parents will transfer the new parenting skills they learned to real-life situations. First, generating ideas about how to respond to hypothetical parenting situations in group discussions, while role-playing, or in response to a video, is quite different from generating effective parenting strategies while actually interacting with young children. Even when IVF is used, parents generate ideas of how they could have responded to their child when they are watching a video of themselves interacting with the child. It may be considerably more challenging to generate and use the strategies they learned while engaged in actual interactions with their children. This may be particularly true when it comes to learning positive guidance strategies. When removed from the emotional stress of challenging interactions with children and given some time to think, it is much easier for parents to come with ways to phrase a limit in positive terms or offer choices to a child. In the heat of the moment, habits are difficult to break, and the parent's first instinct is usually to stop a child's negative behavior by saying "No" or "Stop". Thus, parent training that includes hands-on opportunities to interact with young children in a context in which trained professionals can provide on-the-spot feedback should be particularly effective in changing parenting practices.

Secondly, although parents may learn new information and change their parenting attitudes and beliefs through parenting education programs, whether or not they will be motivated to act on this new knowledge by actually changing their parenting behavior is questionable (McMullen 1997). Multiple factors play a role in parents' behaviors, including their cultural and religious beliefs about how to discipline children (Harkness and Super 2002), knowledge about child development, and ideas about parenting based on their own history of being parented. According to Bandura (1977), observational learning requires attention, retention, motor reproduction, and motivational processes. Interactive methods of parent education that provide parents with the opportunity to observe role models and to practice positive parenting techniques should provide superior opportunities for learning compared to didactic methods. Interactive methods should allow parents to encode visual and auditory images of how to enact effective parenting behaviors, enhancing their ability to recall these behaviors, and to practice enacting these behaviors, enhancing their ability to reproduce these behaviors in other settings. However, parents may not be motivated to change their parenting behaviors unless they can observe and experience positive results in children's behaviors after using the new parenting behaviors they have learned. Bandura (1986) also argued that self-efficacy, one's belief in one's ability to attain specific goals, influences motivation to perform behaviors in the future. By providing positive support and feedback to parents as they practice their new skills, parents who are able to get hands-on experience in actual interactions with young children should be able to build self-efficacy regarding their ability to successfully parent using their newly acquired parenting skills.

To date, most interactive parent education programs have focused only on specific behaviors, such as increasing academic and behavioral functioning of children at risk for attention deficit hyperactivity disorder (Kern et al. 2007) or increasing cognitive and adaptive functioning of children with autism (Anan et al. 2008). Also, most programs have targeted clinical populations (Anan et al. 2008; Kern et al. 2007; Reid et al. 2007), and have not focused on teaching positive guidance techniques. In addition, although positive guidance training in the context of actual classroom interaction with young children is often done in undergraduate programs that educate pre-service early childhood

professionals (McFarland et al. 2009), this approach has not been extended to parent education programs. Thus, the present study examined whether providing mothers with hands-on opportunities to practice and gain feedback in using positive guidance while interacting with young children would be more effective in changing their actual parenting behaviors than a lecture-only method of positive guidance training.

The Present Study

Mothers of 2- to 3-year-old children were assigned to either a lecture-only or a lecture plus hands-on positive guidance training program. Mothers of very young children were recruited because guidance and discipline become key concerns of parents with children this age. Ideally, a positive guidance program for parents should include both parents. However, because our primary goal was to test the effectiveness of including a hands-on component, only mothers were included in the study for practical reasons. Mothers were more interested in participating, and if both mothers and fathers were included, each classroom of six children would have had to accommodate six adults rather than four. We felt that a four to six ratio of adults to children was preferable for optimal learning to take place. Also, mothers are usually more involved in caregiving and discipline of toddlers than fathers (Schoppe-Sullivan et al. 2008).

Even though participants were randomly assigned to one of the two groups, maternal variables existing at the beginning of the program, such as depressive symptoms, stress level, and attitude towards positive guidance, might also explain group differences in the cognitive understanding of positive guidance as well as the behavioral use of positive guidance over time. Both depression (Martins and Gaffan 2000) and stress (Moss et al. 1998) have been shown to impair parenting, and favorable attitudes towards the approach of the program may affect the degree to which participants learned the material. Therefore, the present study examined whether depressive symptoms, stress, and attitude towards positive guidance had moderating effects on the cognitive understanding of the use of positive language in guiding children as well as the behavioral use of positive guidance over time.

We propose the following hypotheses: (1) Mothers in both conditions should increase their cognitive understanding of positive guidance over time; (2) Mothers in the hands-on condition should show greater increases in their cognitive understanding of positive guidance over time than mothers in the lecture-only condition; (3) Mothers in the hands-on condition should show greater increases in use of positive guidance over time than mothers in the lecture-only condition; and (4) Mothers who were more depressed, more stressed, and less positive about positive guidance should show improvements in their cognitive understanding and use of positive guidance only in the hands-on condition.

Method

Participants

Participants were part of a longitudinal study assessing the effectiveness of a hands-on parent education program in positive guidance that was approved by the relevant Institutional Review Board. Based on available classroom space, the sample was comprised of 52 mother–child dyads from the Austin area recruited from a waiting list for a university laboratory school. Two participants dropped out of the study after filling out the pre-measure packet (but before they were videotaped with their children), and another participant dropped out of the study after 3 weeks in the program (her pre-measure packet and videotaping were complete, but not her post-measures). The reasons for this attrition are unknown to the researchers as contact could not be made with these participants. Thus, 49 participants completed the post-measures. Mothers were predominantly Caucasian, averaged over $60,000 in family income, and were highly educated (see Table 1). Mothers' ages ranged from 26 to 43 years, with a mean age of 34.40 years (SD = 3.90 years). Children's ages ranged from 2 years 3 months to 3 years 7 months, with a mean age of 2 years 11 months (SD = 4 months).

Table 1 Summary of percent distributions for maternal ethnicity, family income, and maternal education level

	Percent
Maternal ethnicity	
Caucasian	75.0
Latino	11.5
Asian	11.5
African American	2.0
Family income	
$0–20,000	5.8
$20,001–40,000	9.6
$40,001–60,000	11.5
$60,001–80,000	25.0
>$80,000	48.1
Maternal education level	
Some post high school	9.6
Finished college	57.7
Completed a graduate degree	32.7

Measures

Positive Alternatives

This measure was designed by the researchers to assess mothers' cognitive understanding of the language used in positive guidance. This measure was modified from an assignment used to grade University students' understanding of positive guidance. At the beginning of the program, 52 mothers completed the positive alternatives measure, which included 20 examples of inappropriate phraseology for guiding children's behavior. Sample items include "Don't run" and "Stop throwing your toys". Mothers were instructed to rephrase each statement using positive, specific language, to avoid using "we" or "let's" or "OK", and to communicate what they wanted the child to do, rather than what they did not want him/her to. The assignment had been used for over 5 years, and was effective in determining the degree to which students understood the language involved in using positive guidance with young children. This measure was also given to mothers at the end of the program; 49 mothers completed the post-measure. Based on the degree to which mothers used positive guidance in their written responses, trained coders assigned measures a value between 1 and 20, in which 1 indicated a "Low understanding of the use of positive guidance" and 20 indicated a "High understanding of the use of positive guidance". Both coders rated the measures for all participants and were blind to the placement of families in the lecture-only versus hands-on conditions. The intraclass correlation coefficient was computed, and coder reliability was .97 pre-test and .97 post-test.

Behavioral Use of Positive Guidance

Mothers were videotaped interacting with their children in a Precarious Room for 25 min, consisting of 20 min of play and 5 min of clean-up (Dix et al. 2004). This room was specifically designed to elicit the need for limit-setting by mothers because it contained items that could be problematic for young children, including a cell phone, a set of keys, a sealed jar of candy, a pitcher of water, a stack of drinking cups, stacks of videotapes and papers, and research equipment. Mothers were instructed to keep their children away from these items. Children were allowed to play with other items in the room (bats, tennis rackets, a water table, and other toys) that also required limit-setting. At the end of play time, mothers were asked to have their children help clean up the toys.

Trained coders assessed pre-training ($n = 50$) and post-training ($n = 49$) videotaped interactions of mothers' behavioral use of positive guidance. All coders were fourth year university research practicum students who were trained experts in the use of positive guidance with children and had excellent recommendations from their professors. They had each completed 140 classroom hours interacting with children while using Positive Guidance. Additionally, they each received A's in their Research Methods course. Coders received one-on-one training with the first author of this paper on macro-analytic coding. Together, the author of this paper and the coders created the macro-analytic coding system and went through a rigorous process of reliability testing before coding began. All coders were reliable on the training tapes. Although each tape was coded by a minimum of two coders, to ensure coder drift did not occur, 25 % of the tapes were coded by all four coders.

Mothers' behavioral use of positive guidance for the entire interaction was coded on a 7-point Likert scale, in which 1 indicated minimal use of positive guidance, 5 indicated "More use of positive guidance than not", and 7 indicated a "Pervasive use of positive guidance". Each of the 7 scale points were designed to be qualitatively different from one another. Thus, mothers who are rated one scale point higher than other mothers use positive guidance in fundamentally different ways. One global code was given for each mother. The definition of positive guidance given to the coders was, "Use of Positive Guidance involves discipline strategies which reinforce appropriate behavior by suggesting positive alternatives to mistaken behavior rather than telling a child what NOT to do. Punitive strategies are never used and adults have appropriate developmental expectations of children. Positive Guidance uses positive statements to bolster children's social and emotional development". Sixteen indicators of positive guidance were observed. Some examples of these indicators included, "Mother models appropriate behavior for the child", "Mother anticipates, prevents, or redirects mistaken behaviors", and "Helps child regulates his/her emotions". Coders were blind to the research questions and to the placement of families in the control versus treatment groups. The intraclass correlation coefficient was computed, and coder reliability was .68 pre-test and .83 post-test.

Depressive Symptoms

The Center for Epidemiological Studies Depression Scale (CES-D; Radloff 1977) was used to assess depressive symptoms in mothers pre-intervention. The CES-D is a commonly used self-report measure of depressive symptoms which asks respondents to rate how often they have felt particular ways in the past week. Participants responded to 20 items using a four point scale, in which 0 is "Rarely or none of the time" (less than 1 day in the last

week) and 4 is "Most or all of the time" (5-7 days in the last week). Sample items include "I was bothered by things that usually don't bother me" and "I had trouble keeping my mind on what I was doing". Possible scores range from 0 to 60, with higher scores indicating a greater level of depressive symptoms. CES-D scores between 16 and 26 are considered indicative of mild depression, whereas scores of 27 or more are indicative of major depression. Internal consistency is approximately .85 in the general population (Radloff 1977). Cronbach's alpha for the CES-D in this study was .82.

Perceived Stress Scale

The Perceived Stress Scale (PSS; Cohen et al. 1983) is a 10-item measure designed to assess the amount of stress parents perceive in their lives. It is the most widely used psychological instrument for measuring the perception of stress (Fliege et al. 2005). Assessed pre-intervention, mothers were asked to consider their stress level over the past month and rate each question using a 5-point Likert scale ranging from 0 (Never) to 4 (Very often). Sample questions included "In the last month, how often have you felt that things were going your way?" and "In the last month, how often have you been able to control irritations in your life?" Higher scores represented higher perceptions of stress, with a possible score range of 0 to 40. The mean score on the PSS in a normative US sample of women is 13.7 (SD = 6.6). Reliability coefficients range from .84 to .86. Cronbach's alpha for the PSS in this study was .86.

Attitudes Towards Positive Guidance

A single item question was used to assess mothers' attitudes towards positive guidance pre-intervention. In response to the question, "How favorably do you feel towards the approach of positive guidance," mothers circled a number between 1 and 10, where 1 was "Not favorable at all" and 10 was "Very favorable".

Procedure

The 52 mother–child dyads participated in a 12-week parenting education program which focused on positive guidance. As part of the study, children were enrolled in one of four early childhood classrooms at a university laboratory school for the length of the study; they attended these classes 2 days per week for 3 h each day. Once a week, all mothers attended a 2 h seminar to learn about positive guidance. Mothers were randomly assigned to one of two conditions: (1) the lecture-only condition, in which their children attended a preschool class and the mother attended the positive guidance seminar; and (2) the hands-on condition, in which mothers spent an additional 3 h once per week observing a teacher role model and interacting with children in one of the toddler classes in which their own child was not enrolled. During these 3 h, no new or additional lecture-based material was introduced. The hands-on group was instructed to implement what they had learned in seminar under the supervision of experienced teachers who provided them feedback on their goals and interactions only.

Both pre- and post-program, mothers filled out the Positive Alternatives measure, a written assessment measuring mothers' cognitive understanding of the use of positive language in guiding children. Also pre- and post-program, each mother was videotaped interacting with her child for 25 min (20 min of play and 5 min of clean-up) in a room designed to elicit limit-setting from parents.

The Parent Training in Positive Guidance Program

Mothers were mailed letters informing them about the opportunity to participate in this program. Mothers were instructed to call our research staff for an initial interview, at which time staff answered any questions, scheduled participants for classes and requested that participants fill out consent forms, health and safety information forms, and pre-measures. Approximately 25 % of mothers who were initially contacted via the flyer agreed to participate in the study. In forming the evening seminar classes for the mothers, mothers were alternately assigned to either a Tuesday night or Thursday night seminar. Mothers in the Thursday night seminar also received hands-on positive guidance practice in one of the early childhood classrooms at the university laboratory school. At the start of the study, mothers were unaware that there were two participating groups. Although they did learn of the differences between the two groups by participating, mothers were not able to switch groups at any time, regardless of any expressed preferences for one group over the other. Most mothers expressed a preference for and identified with the group in which they had been placed. Classroom effects were avoided by ensuring that half of the children in each classroom had mothers attending the Tuesday night seminar, and the other half of the children in each classroom had mothers attending the Thursday night seminar.

To staff the program, teachers for the early childhood classes, childcare providers for when parents attended seminars, and data collection researchers were needed. In selecting staff, we recruited fourth year university research practicum students who had already been trained in positive guidance, had a solid background in early childhood development and family relationships, had high GPAs, and had excellent recommendations from their guidance professor as well as the positive guidance master teachers who

supervised their training. As part of their training, teachers for the early childhood classes were required to complete 140 classroom hours under the direct supervision of a positive guidance master teacher during which they set daily goals, conferenced with master teachers before and after to discuss guidance situations in the classroom, and directly interacted with children. Additionally, they completed multiple classroom assignments requiring them to demonstrate applied knowledge and competency in the use of positive guidance, reflect on their beliefs, address hypothetical situations, and self-reflect on their interaction with children in the classroom. Although none were parents themselves, these teachers were professionals and experts in the use of positive guidance in an early childhood setting.

We created a 12-week curriculum for the parent training seminars. The topics were: What is Positive Guidance?, The Use of Positive Language, The use of Encouragement versus Praise, Fostering Internal Motivation, Punishment versus Guidance, Fostering Children's Social Competence, Baumrind's Parenting Styles, Specific Guidance Techniques, Misbehavior versus Mistaken Behavior, Children's Moral Development, Spanking, Time-outs, Children's Friendships, and Real Life Guidance. This curriculum was based on materials created for a University undergraduate course called "Fostering the Social Emotional Development of Young Children". One of the authors implemented both seminar sessions, therefore, the instructor was not blind to the conditions. This researcher has 7 years of experience teaching undergraduates in early childhood education, developmentally appropriate practice and positive guidance, as well as 4 years experience teaching toddlers, supervising student teachers and interacting with parents in the use of positive guidance.

Mothers and staff then attended orientations. Mothers who were also practicing in the classroom went through an extensive orientation regarding the guidelines and routines of working with children. Before entering the early childhood classroom, their role was explained, and they learned the daily routine. Mothers' role was to supervise, guide, and interact with children as part of the daily classroom routine. Mothers did not do any of the curriculum planning nor did they interact with children's parents. The lead classroom teachers were ultimately responsible for the classroom and for supporting parents in the classroom. Mothers were required to pre- and post-conference with the classroom teachers at the beginning and end of the class to review their guidance goals for the day. Guidance goals included 're-phrasing negative language' or 'using more encouragement instead of praise'.

Parents were given experience with other young children rather than with their own children so that they could practice new techniques in a less emotionally charged situation. This may be problematic, as it is unknown how well any change in parents' behaviors might generalize to interactions with their own children. However, providing parents with an opportunity to practice positive guidance with other children than their own may allow a more emotionally neutral learning environment in which they feel more comfortable to try new techniques rather than relying on their past relationships with their own children. Thus, practice with other children might help parents overcome emotional barriers so that they can constructively respond to their own children. According to behavioral therapy, changing a behavior can aid in changing one's emotional state.

Classroom teachers were required to read and understand all of the parent orientation materials. To keep experiences in each classroom as similar as possible, teachers followed a pre- and post-class procedure list and a daily room routine that detailed specified roles for each of the teachers. Teachers were required to conference with mothers at the beginning and end of every class to go over mothers' daily guidance goals, answer questions mothers had about particular situations that had arisen, and give feedback on their use of positive guidance. Attendance was recorded in the early childhood classes, the positive guidance seminars, and in childcare while mothers attended seminars.

Results

Descriptive Statistics

Descriptive statistics are reported for positive alternatives and behavioral use of positive guidance for before and after the program as well as for both conditions and overall (see Table 2). In addition, averages are reported for depressive symptoms, stress, and attitudes towards positive guidance for each condition and overall. To ensure that there were no pre-test differences between the lecture-only and hands-on groups prior to treatments, we performed one-way analyses of variance comparing these two groups on all of the pre-test measures listed on Table 2 (i.e., positive alternatives and behavioral use of positive guidance, depressive symptoms, stress, and attitudes towards positive guidance). The two groups did not differ significantly on any measure except for stress, with the hands-on group reporting significantly higher levels of stress pre-treatment than the lecture-only group, $F\ (1, 51) = 4.07$, $p = .049$. This pre-existing difference in stress would not be likely to account for any findings supporting our hypothesis that the hands-on group would show greater increases in their understanding and use of positive guidance over time, since the higher level of stress in the hands-on group should actually mitigate against their ability to learn and use positive guidance strategies. In addition, the mean level of stress in

Table 2 Summary of means, standard deviations, and ranges for positive alternatives, behavioral positive guidance, depression, stress, and attitude towards positive guidance

	Mean	(SD)	N	Range	
				Min	Max
Positive alternatives					
Lecture-only pre	9.01	(2.49)	26	3.00	12
Lecture-only post	11.81	(2.61)	25	5.75	17.75
Hands-on pre	10.50	(3.34)	26	3.50	17
Hands-on post	13.54	(3.32)	24	6.75	19
Overall pre	9.75	(3.01)	52	3.00	17
Overall post	12.66	(3.07)	49	5.75	19
Behavioral guidance					
Lecture-only pre	4.00	(1.27)	25	1.5	6
Lecture-only post	3.76	(1.35)	25	1.5	7
Hands-on pre	3.96	(1.14)	25	2	6
Hands-on post	4.77	(1.45)	24	2.5	6.5
Overall pre	3.98	(1.19)	50	1.5	6
Overall post	4.26	(1.48)	49	1.5	7
Depression pre					
Lecture-only	8.12	(1.34)	26	0	25
Hands-on	10.15	(1.26)	26	1	28
Overall	9.06	(.91)	53	0	28
Stress pre					
Lecture-only	13.30	(1.08)	26	2	25
Hands-on	16.33	(1.06)	27	5	26
Overall	14.87	(5.64)	54	2	26
Attitude towards guidance pre					
Lecture-only	8.92	(1.32)	26	6	10
Hands-on	8.96	(1.31)	25	6	10
Overall	8.94	(1.29)	52	6	10

this sample was not statistically different from the mean level of stress in the general population of women. Also, where a cutoff of 16 on the CES-D indicates mild depression, this sample's mean ($M = 9.06$; SD = .91) was below this level. All data was analyzed using SPSS (version 19.0), and a 95 % confidence interval was used in all analyses. In choosing analyses, although the dependent variables are ordinal-level, the parametric approach of repeated measures ANOVAs was chosen because the dependent variables are normally distributed with non-significant skew and because the data is coded on 7-point or greater Likert scales.

Cognitive Understanding of the Use of Positive Language in Guiding Children

A two-way repeated measures ANOVA confirmed that as predicted, there was a significant main effect of time on cognitive understanding of the use of positive language in guiding children, indicating that all participants did increase in their cognitive knowledge over the course of the program, $F\,(1, 47) = 62.65$, $p = .000$, $\eta_p^2 = .57$. However, the main effect of condition (lecture-only vs. hands-on) on cognitive understanding was not significant, $F\,(1, 47) = 3.24$, $p = .08$. No significant interaction was found between the two independent variables, condition and time, on cognitive understanding, $F\ (1,\ 47) = 1.34$, $p = .25$. Thus, our first hypothesis, that both groups would improve in their knowledge of positive guidance, was confirmed, but the second hypothesis, that the hands-on group would show greater improvement in their knowledge of positive guidance, was not confirmed.

Behavioral Use of Positive Guidance

As predicted, a two-way repeated measures ANOVA confirmed that there was a significant interaction between the two independent variables, condition (lecture-only vs. hands-on) and time, on behavioral use of positive guidance, $F\,(1, 46) = 6.13$, $p = .02$, $\eta_p^2 = .12$, indicating that the two conditions differed over time on their scores of behavioral use of positive guidance. Post hoc analyses confirmed that before the program there were no differences between the groups in their behavioral use of positive guidance ($p = .80$), but after the program the hands-on group scored significantly higher than the lecture-only group on their behavioral use of positive guidance ($p = .01$, $\eta_p^2 = .15$). Further, post hoc analyses confirmed that over the course of the program the hands-on group significantly improved in their behavioral use of positive guidance ($p = .01$, $\eta_p^2 = .13$), whereas the lecture-only group did not improve ($p = .41$). Thus, our third hypothesis, that the hands-on group would show greater improvement in their knowledge of positive guidance, was confirmed.

Moderator Variables: Depressive Symptoms, Stress, and Attitude Toward Positive Guidance

Two participants in the hands-on group had missing data for the attitude toward positive guidance variable and one participant in the lecture-only group had missing data for the stress variable. Three-way repeated measures ANOVAs showed that neither depressive symptoms ($F\,(1, 45) = .68$, $p = .41$), stress ($F\ (1,\ 45) = .01$, $p = .93$), nor attitude towards positive guidance ($F\ (1,\ 44) = .08$, $p = .78$) moderated the effects of condition and time on the cognitive understanding of the use of positive guidance. Also, three-way repeated measures ANOVAs showed that neither stress ($F\ (1, 44) = .05$, $p = .82$) nor attitude towards positive guidance ($F\,(1, 43) = .81$, $p = .37$) moderated the effects of condition and time on the behavioral use of

positive guidance. However, a three-way repeated measures ANOVA confirmed a significant interaction between the three independent variables—condition, time, and depressive symptoms—on behavioral use of positive guidance, F (1, 44) = 5.40, p = .03, η_p^2 = .11. This indicates that the two conditions differ over time on their behavioral use of positive guidance based on their score of depressive symptoms. To interpret this result, a categorical depressive symptoms variable was created that split depressive symptoms at the median into those scoring in the upper half of the measure (N = 27) versus those scoring in the lower half of the measure (N = 26). A three-way repeated measures ANOVA verified the significant interaction among groups, time, and the new categorical depression variable on the behavioral use of positive guidance, F (1, 44) = 4.08, p = .05, η_p^2 = .09.

To understand the differences in condition and time interactions on behavioral use of positive guidance of those participants who scored in the lower versus upper half of the depressive symptoms measure, decompositions of the interactions within the three-way repeated measures ANOVAs were examined. For the group scoring in the upper half of the depressive symptoms scale, there were no interaction effects of condition and time on the behavioral use of positive guidance, F (1, 23) = .17, p = .69 (see Fig. 1). In addition, there was no main effect of condition on behavior, F (1, 23) = 2.48, p = .13, and no main effect of time on behavior, F (1, 23) = 1.03, p = .32. This indicates that mothers who score in the upper half of the depressive symptoms scale do not increase or decrease in their use of positive guidance over time, regardless of their condition. However, for the group scoring in the lower half of the depressive symptoms scale, there was a significant interaction of condition and time on the behavioral use of positive guidance, F (1, 21) = 11.95, p = 002, η_p^2 = .36 (see Fig. 2). Specifically, for the group scoring in the lower half of the depressive symptoms scale, analyses showed that before the program there were no differences between conditions on behavioral use of positive guidance (p = .40). After the program, the hands-on group scored

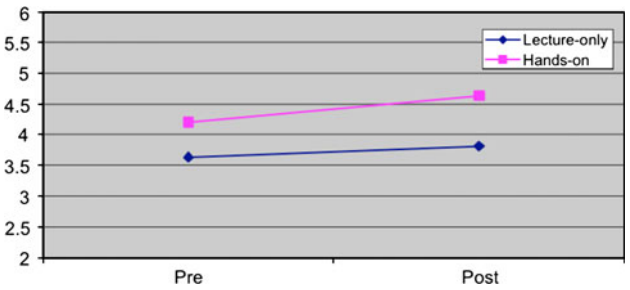

Fig. 1 The interaction of condition (hands-on vs. lecture-only) and time on the behavioral use of positive guidance for participants scoring high on depression

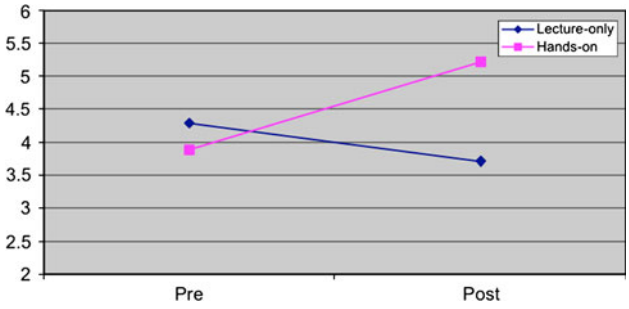

Fig. 2 The interaction of condition (hands-on vs. lecture-only) and time on the behavioral use of positive guidance for participants scoring low on depression

significantly higher than the lecture-only group on their behavioral use of positive guidance (p = .02, η_p^2 = .24). Over the course of the program, the hands-on group significantly improved in their behavioral use of positive guidance (p = .01, η_p^2 = .31), whereas the lecture-only group did not change in their behavioral use of positive guidance (p = .11). This indicates that mothers who score in the lower half of the depressive symptoms scale who are also in the hands-on group increase in their use of positive guidance over time, whereas those who score in the lower half of the depressive symptoms scale who are also in the lecture-only group do not improve in their use of positive guidance. Thus, part of our fourth hypothesis was confirmed: Mothers in the hands-on condition who were low in depression improved in their behavioral use of positive guidance, but those who were high in depression did not. Mother in the hands-on condition improved in their use of positive guidance regardless of their levels of stress and pre-existing attitudes towards positive guidance, however.

Discussion

The primary aim of this study was to explore which method is more effective in educating mothers in the use of positive guidance, a lecture-only format or a lecture-format combined with an interactive, hands-on component. Based on social cognitive theory, we expected participants in the hands-on group to have gained a deeper understanding of positive guidance than participants in the lecture-only group because they saw positive guidance being modeled and had the opportunity to practice the techniques themselves. Contrary to prediction, the cognitive understanding of positive guidance did not differ between the two groups at post-test. Rather, understanding increased for both groups equally over the course of the program. This finding is consistent with evidence from other parenting education programs, which indicates that participants' knowledge of the material does increase after learning course material in

a lecture format (Drugli and Larsson 2006; McIntyre 2008). It is important to note that although the increase in knowledge was statistically significant, it represented a three-point increase on a 20 point scale. With the intensity of the program, it is surprising that the change was not greater. It is possible that the three points represent a larger change than might be assumed, as all 20 points of the scale were not utilized in the coding. Because scores ranged from three to 19, there may be room to modify and tighten the scale points so that the full range is utilized.

As predicted, although all participants started at the same level in their behavioral use of positive guidance, the hands-on group increased their use of positive guidance over time whereas the lecture-only group did not. Although this result was significant for the hands-on group, the increase over time only represented approximately one scale point. Because the individual scale points represent qualitative differences in the use of positive guidance, this result is meaningful. According to social cognitive theory, observing the effectiveness of the positive guidance used by experienced teachers in the classroom would make it more likely for mothers to use these techniques themselves. They may have been positively reinforced by their own success in using positive guidance, and thus, more motivated to change their actual parenting behaviors. One mother made a distinction between her thoughts and her behaviors regarding her parenting, stating, "Most importantly I was able to see the difference between what I believe and what I actually do with my children. The classroom experience was necessary for me to learn and practice new techniques." In contrast, although mothers in the lecture-only condition increased their knowledge of positive guidance, they may have been less aware of the possible benefits of using these techniques since they did not see them in action, and thus, their behaviors did not change.

It is important to note that because all of the children experienced positive guidance in the classroom, both groups may have benefitted as a result of their children having experienced positive guidance. Specifically, because the teachers modeled effective ways for the children to communicate with their peers and regulate their emotions, the new skills gained by the children might impact the parent–child relationship in a positive way. One mother commented of her son, "My son absolutely loved being a part of this program. We could see a change in his self confidence over the 12 weeks."

We found that although depressive symptoms did not moderate the effect of condition and time on participants' cognitive understanding of the use of positive language in guiding children, they did moderate the effect of condition and time on participants' behavioral use of positive guidance. It is important to note that the CES-D is a measure of symptoms—it is not a clinical diagnosis of depression. A cutoff of 16 has been used to indicate mild depression and a cutoff of 27 is indicative of major depression, however, the majority of the mothers in this study scored below these levels. Thus, the following results should be interpreted in terms of a continuum of symptoms rather than a clinical cutoff or diagnosis.

Mothers who scored in the lower half of the depressive symptoms scale who were also in the hands-on group increased in their use of positive guidance over time, whereas those who scored in the lower half of the depressive symptoms scale who were also in the lecture-only group did not change in their use of positive guidance. Although the result for mothers scoring in the lower half of the depressive symptoms scale who were also in the hands-on group was significant, the increase over time only represented approximately one scale point. Because the individual scale points represent qualitative differences in the use of positive guidance, this result is meaningful. For mothers scoring in the lower half of a depressive symptoms scale, the results indicate that being in the hands-on group is vital to changing parenting behaviors.

Mothers who scored in the upper half of the depressive symptoms scale, however, did not increase or decrease in their use of positive guidance over time, even if they were in the hands-on condition. There are multiple reasons why mothers who were higher on depressive symptoms may not have benefited from this parenting intervention. First, a recent meta-analytic review suggested that there is a significant relationship between depressive symptoms and memory impairment (Burt et al. 1995). Moreover, mothers who are high in depressive symptoms have been found to be less supportive, more intrusive, less warm and responsive, and more negative toward their children than non-depressed parents (Cummings and Davies 1994; Dix et al. 2004; Dix and Meunier 2008). Thus, mothers who are high in depressive symptamatology may be both less cognitively able to take in new information, and less motivated to work on changing their parenting behaviors. These findings suggest that this program might need to be modified for a sample scoring in the upper half of a depressive symptoms scale to benefit, above and beyond placement in the hands-on group. It is possible that parents' depressive symptoms might need to be addressed and treated before they are able to focus on learning and changing their parenting behaviors.

To develop a program that is more effective for parents scoring in the upper half of the depressive symptoms scale, future research should investigate why these parents were less likely to use positive guidance strategies with their children. Given that mothers' knowledge of positive guidance increased in both conditions and was not related to depressive symptoms, it seems likely that mothers scoring in the upper half of depressive symptoms were

either less able or less motivated to enact positive guidance strategies with their own children, compared with mothers scoring in the lower half of depressive symptoms. Perhaps they were more likely to doubt their ability to enact positive guidance strategies effectively, or they may have simply lacked the energy to try new parenting techniques.

Mothers scoring in the lower half of depressive symptoms in the lecture-only condition did not change in their use of positive guidance. These mothers may have learned from the seminars that it is important to set limits and avoid being permissive. Although they did learn about positive guidance techniques, they may have been unsure of how to enact them in real-life situations since they did not observe expert role models using positive guidance or have an opportunity to practice and receive feedback. This finding is further evidence of the importance of using interactive, hands-on methods to teach positive guidance.

Neither stress nor attitude toward positive guidance was related to mothers' understanding of or use of positive guidance. The attitude questionnaire indicated that all mothers in the program felt positively towards the approach of positive guidance. Perhaps mothers felt they were expected to view positive guidance positively in order to participate in the program, or they did not know enough about positive guidance at the start of the program to fully understand what they were endorsing. A more well-defined and subtle measure of attitudes towards positive guidance may have uncovered more variability.

One limitation of this study is that although the sample was somewhat diverse, highly educated, middle class mothers predominated. Further, the philosophy of positive guidance is often associated with a middle class, Caucasian culture. Studies are needed to determine the efficacy of this strategy with diverse samples, in order to determine if this program should be modified to be more culturally sensitive. A second limitation is the small sample size. A larger sample may have given enough power to detect post program differences in the groups' cognitive understanding of the use of positive guidance. A third limitation is that prior to the program, the hands-on group reported a significantly higher level stress than the lecture-only group. This may also have contributed to the lack a significant difference in the two groups' post- program levels of cognitive understanding. That is, their higher levels of stress may have held back the hands-on group from increasing their level of cognitive understanding as much as they might have if their level of stress had been lower and equivalent to that of the lecture-only group. Another limitation is that the lead author was the person implementing both positive guidance lectures. However, a conscious effort was made to avoid bias and to make the lecture experiences for each group as similar as possible. Finally, there was no control group in this study, only two different conditions of intervention. Future studies could include a control group where no type of intervention is made.

The cost of running this program combined with the time commitment required of parents may make the program's structure seem impractical. However, the benefits may outweigh the costs. In traditional court-ordered parenting education courses, parents attend eight to ten lecture-based classes. The results from this study suggest that parents who attend traditional court ordered parent training might gain new knowledge, but may not implement what they learn. Thus, it may be in the interest of the State and children's welfare to provide hands-on educational opportunities that have a better chance of influencing parents' behaviors. Future research should also examine the effects of including fathers as well as mothers in the parenting intervention. If both parents were able to participate, the effects may be stronger.

Additionally, these findings may have implications for early childhood educators who regularly work with parents in the classroom. For example, co-op preschools involve a commitment from parents to work in a classroom a certain number of days per year. Often, parents tend to view themselves as the children's "playmates" rather than as "educators". Our program could be adapted for early childhood educators in order to teach parents who spend time in children's classrooms how to use positive guidance. Finally, longitudinal studies should be conducted to assess the long-term effectiveness of the hands-on intervention programs, including long-term effects on children's social competence.

In conclusion, this study indicates that a hands-on component of a parent education program in positive guidance may contribute to a greater change in actual parenting behaviors. The findings suggests that future parenting programs may be more effective in obtaining desired results if parents are able to actually practice and receive feedback and support while learning new parenting practices.

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