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Evaluation of a Behavioral Parent Training Program

Stephen Kunkel

Eastern Washington University

Abstract

One hundred-nineteen parents participated in a Behavioral Parent Training (BPT) program guided by The Nurturing Program: For Parents and Children Birth to Five Years (Bavolek & Bavolek, 1988) parent handbook. A pre- and post- test, treatment-group-only quasi-experimental design was employed. Analysis of variance and covariance were employed to determine main and interaction effects between dependant variables: (a) parental rating of child externalizing behaviors, (b) parental depression, and (c) parental anger expression, and independent variables: (a) evaluation time and (b) various demographic identifiers. Results indicate main effects for parental depression and parental report of child aggressive behaviors, as well as covariate effects of gender on depression and report of child behaviors. Also discussed in the paper are: (a) clinical and subclinical trends, (b) implications of the study for clinicians or consultants, (c) limitations of the study, and (d) suggested directions for future research.

Behavioral Parent Training

Social service agencies receive 2,700,000 reports of child abuse or neglect each year. Each day, three fatalities occur as the result of child abuse (National Center on Child Abuse and Neglect, as reported by the Department of Justice, 2001). Given these high numbers, one might question how such high rates of child abuse manifest.

One possible answer comes from Salzinger, Feldman, Hammer, and Rosario's (1992) correlational study that collected data on 106 abused school children, ages eight through 21 years. The participants were obtained from confirmed cases on the New York State Child Abuse Register for the City of New York. Data were also collected on a control group of 85 children selected from the abused children's classmates, representative of the population at large. Family violence was assessed using information from two sources: interviews with the parents and written narratives from the Child Abuse Register describing the events that resulted in referral. Salzinger et al's results indicate that "the most likely routes to child abuse are indirect, beginning with problems of violence and substance abuse in the mother's childhood and *mediated* through stress and discord in her current household, resulting in her own victimization" (italics added; p.38).

Coercive Process

In his book Coercive Family Process, Patterson (1982) provides a specific model of how parental stress and child assertive behaviors may lead to abuse of the child and contribute to childhood and adult psychopathologies. Patterson's model begins with the mother's subjection to high levels of stress from normal interactions with her children. Typically the younger the child is, the higher the stress level (Patterson, 1980). As

Patterson and Littman suggest (1967), there is a continuum between childhood assertiveness, which may be no more than a normal part of development, and aggression, which may be a precursor to later pathology. Despite their position on the continuum, “one thing all [the associated] behaviors have in common is their ‘demand characteristic.’ Assertive behaviors are coercive in the sense that they demand (force) a reaction from the environment, and very often the consequences are reinforcing” (p. 1).

Patterson points out that in many families, the father falls into a role of social mediator and “resident guest,” while the mother assumes, or is cast into, the role of “caretaker.” Even though both parents may share in the discipline of the child, the father’s workday ends when he returns home, whereas the mother’s day does not end at all. Furthermore, care of the children is part of her “job description,” ensuring that she will be subjected to continuous high levels of stress. In distressed or high-risk families the same organization is found, with the exception that the mother in such cases is also in charge of crisis management. When dealing with preschool children at home or in the laboratory, it has been determined that minor aversive events happen about every three minutes and major aversive events may happen as often as every twenty minutes (Patterson, 1980). These continuous aversive interactions can have a real “tearing down” effect on the mother’s ability to withstand stressful life events.

Maternal Stress. Patterson and Forgatch (1990) describe a process by which a mother’s stress may be worsened by stressful life events such as separation or divorce from her mate, which may initiate or worsen the coercive process. Patterson and Forgatch point out that high-risk mothers typically act more irritably when interacting with children, friends, and therapists. They are also more likely to engage in sad or

irritable behaviors. Patterson and Forgatch also provide three mechanisms by which such behaviors may act in the coercive process. To understand these mechanisms, one must consider how the friends and children react to the irritable or sad mother behaviors. Patterson and Forgatch suggest that in situations where the mother's behaviors are primarily due to a stressful event, it is the responses of the friends or children that determine whether the process will be perpetuated or attenuated.

Maternal interactions. In the first two mechanisms, the mother's interactions with friends drift toward becoming one-sided discussions of the mother's problems. These unidirectional conversations are accompanied by irritable/sad facial expressions and voice tones on the part of the mother who is focusing only on herself. Eventually the friends find interacting with the mother to be aversive. One response is that the friends may begin to avoid the parent thereby increasing her feelings of being overwhelmed and without a support group. Another response that friends may have is to play the part of counselor, offering stress-management or parenting advice that the parent does not want. Either of these responses may result in increased maternal stress. The third mechanism describes the mother's interaction with the child and is the heart of the coercive process. Simply put, the unusually high levels of stress that the mother is experiencing are reflected in her child management skills. She provides fewer positive statements to the child and only attends to very aggressive or annoying behaviors that demand a response.

Negative reinforcement trap. At this point, the mother falls into what Patterson dubs the negative reinforcement trap. Briefly, the negative reinforcement trap comes into effect when the mother does something in response to some aversive child behavior, which results in a reduction of the aversive behavior and, in turn, increases the likelihood

of her repeating such a response in the future. This process need not be maladaptive, but there are two undesirable outcomes that may emerge.

One possible outcome of the negative reinforcement trap is that the mother may inadvertently train her child to whine and tantrum in response to any demand made upon the child. An example of this would be the mother asking the child to clean her room, only to have the child cry and tantrum until the mother gives in and tells the child she does not have to do it. This result has great immediate payoffs for both parties. The mother escapes the aversion of the child's crying and the child avoids both having to clean her room and the commands of the mother. Unfortunately, the room remains a mess and the mother has, to a great extent, lost verbal control over her child. In single mother families of multiple children Biglan, Lewin, and Hops (1990) report that the matching law may come into effect. The matching law is a phenomenon that describes when two sources of reinforcement are available, an organism will work harder for whichever produces a larger qualitative payoff. Furthermore, the amount of effort spent at a source of reinforcement will proportionally match the amount of reinforcement available from that source. In parenting terms, whichever child is whining more at any given time will receive the most attention because application of this attention, on the mother's part, provides the temporary cessation of the most annoying whining behavior. When this occurs, the children may serve as models of bad behavior for each other, worsening the situation for the mother.

Other possible long-term harm to the child may result. The child who has been "spoiled" in this way, to a large extent, has not learned the give-and-take nature of social relationships. Quite often, as the child grows older and is exposed to peer groups, the

members of the peer groups will socialize him or her. However since interacting with the child may be aversive, he or she may either not be accepted by peers, or may seek deviant peer groups thus impairing the normal, healthy socialization process. Either of these consequences puts the child at risk for later pathologies (Patterson, 1980).

A second possible outcome of the negative reinforcement is that, as cited above (Patterson and Littman, 1967; p. 1), the demanded response from the parent may have reinforcing properties to the child. This may occur when the parent fails to provide adequate positive attention to the child, and the primary source of parent-child interaction comes as the parent's responses to the aversive demands of the child. Such parental replies are often coercive actions designed to gain control over the situation and "teach" the child not to act in such a way in the future. Unfortunately, because this is the child's most effective mechanism for gaining attention from the parent, the child is likely to repeat the demanding behaviors despite parental attempts at punishment.

Escalation and tolerance. Another component of the coercive process is the reciprocal nature of aversive behaviors. "Given an aversive behavior by one person, the other is likely to respond in kind in the very near future" (Patterson 1980; p. 6). Biglan, et. al. (1990) point out that an aggressive behavior by one person is often sufficient to provoke an aggressive response *even if the response is not directly reinforced*. In parent-child interactions, as with other types of interactions, one typically does not find a single aversive event, but instead an interchange of events that continue until one person submits and thereby assumes the role of victim. Furthermore, over time this scenario typically results in an escalation in intensity of the aversive interchanges. As intensity escalates, the child becomes increasingly tolerant of the coercive replies of the parent.

The parent, seeking temporary cessation of the aggressive demands of the child, increases the severity of the replies to sufficiently exceed the level of child tolerance, slowly developing into child abuse. Even though the replies of escalating coercion are intended to reduce the aggressive behaviors, the aggressive behaviors are reduced much less than the prosocial and neutral behaviors of the child (Biglan, et. al, 1990).

Behavioral Parent Training

Findings like these suggest that, while it is not possible to change the history of parents who were abused as children, it may be possible to curb the instances of child abuse by lowering the level of stress in the home. One way to do this may be through training parents to recognize the potential pit-falls of reinforcing inappropriate behavior, teaching them to shape the behavior of their children in appropriate directions, and thereby reduce parental stress and lower the likelihood of child abuse. This method of using parents as agents of change for child behavior is commonly called Behavioral Parent Training (BPT; Latham, 1996; Shriver, 1998)

History. Long reports (1997) that books and discussion groups on parenting have been around since the early 1800s. Many behaviorally oriented practitioners or consultants, however, will be surprised to read that West and Hamerlynck (1992) recognize the emergence modern parent training as happening in Vienna in the early 1900s “as an incidental part of Freud’s clinical practice. Through advice and guidance to a friend . . . Freud (1925) was able to counsel him on helping his son (“Little Hans”) to overcome a phobic reaction to horses (p. 170).” Reported success of this case led Ann Freud and others to develop what became known as child psychotherapy in the 1940s. It was later, in the 1950s and 1960s that learning theory was applied to the treatment of

child conduct problems and disorders (West & Hamerlynck, 1992). Concerns about the effectiveness of our mental health services have led to many recommendations. For instance: (a) more flexible and individualized services will help ensure that individuals get treatment that will be effective to them; (b) community-based services that include prevention and intervention will be cost-effective thereby reducing financial strain; and lastly, (c) many have recommended greater parental involvement and empowerment in all levels of services (Long, 1997). Modern parent training meets all of these criteria.

Graziano and Diament's 1992 meta-analysis of the BPT paradigm, which included 155 empirical studies from the periods of 1982 through 1990, indicates that there is significant evidence that BPT has positive effects on parent and child functioning. Parent training is recognized by the American Psychological Association's Division 12 as an empirically validated treatment for oppositional and conduct disorders in children (Woody & Sanderson, 1998).

Behavioral parent training and child abuse. Behavioral Parent Training has implications in the prevention of child abuse and neglect. Bourn (1993) demonstrated this working with two abused boys. The working class family had three children ages 2, 4, and 7. When the two eldest boys were placed on the Child Protection Register for having bruises on their faces and buttocks, consistent with disciplinary beatings, the key social worker made a referral for a behavior specialist. The family displayed many characteristics known to be associated with conduct disordered children such as poor monitoring and supervision, and inconsistent punishment. Patterson's negative reinforcement trap was observed to be present. The intervention aimed to increase the mother's child management skills and thereby free the family from the reinforcement

trap, increasing child compliance and reducing deviance. Results indicate that the mother gained a higher level of verbal control and that child compliance and deviance decreased significantly. As a corollary, the risk of over-chastisement decreased.

Using a multiple baseline across behaviors design, Wolfe, et al. (1982), also taught a child-abusive mother more adaptive skills. An epileptic, illiterate mother was court-ordered to the Child Behavioral Psychology Clinic after multiple accounts of abuse and neglect toward her twin 9-year-old epileptic, developmentally delayed boys. After direct observations and interviews, it was mutually agreed that child compliance and family cooperation were the priorities for treatment. Parent training occurred entirely via a one-way radio transmitter called a “bug-in-the-ear” device. In-home probes occurred periodically during the course of the study and during follow-up. Results show that positive interactions and child compliance increased and hostile interactions decreased.

Working under the assumption that agency-based family support services would be greatly enhanced by parent training in child behavior management, Wolfe, Edwards, Manion, and Koverola (1988) recruited 53 participants, of which 30 completed the training program. Most of the participants were single female parents receiving welfare support. The average child age was two years. Parent training was conducted individually using both normal didactic instruction and guided practice with a bug-in-the-ear device and a one-way mirror. Results indicate that at post-treatment and 3-month follow-up mothers who received behavior management training in addition to standard family support services reported fewer and less-intense behavior problems from their children than did those from the control group. Furthermore, social case-workers

reported less parent behaviors that are associated with the risk of child abuse in the behavior management group. This was evident at both 3-month and 1-year follow-ups.

Impact on child behaviors. Studies such as these support the use of BPT in the prevention and reduction of child abuse. Behavioral parent training is also useful for individuals who are not at risk of child abuse, but have exceptional difficulty with the behavior of their children. Patterson, Chamberlain, and Reid (1982) sought to assess whether parents could be used as change agents for their children's deviant behaviors. Participants were a group of 19 families who were randomly assigned to either an experimental group that received parent training or a control group that received other treatments. Children were all 3 through 12 years old. Each family was individually seen weekly for an average of 17 hours. In-home observations indicate that the parent training group displayed a 63% reduction in child problem behaviors, compared to a 17% reduction rate of the control group. Furthermore, 90% of the parents in the experimental group rated treatment as "very effective," compared to 25% in the control group.

Serketich and Dumas (1996) did a meta-analysis of the effectiveness of BPT to modify antisocial behavior in children. Starting with a pool of 117 studies, they narrowed it down to 26 controlled studies that met the criteria of: (a) at least one of the problem behaviors being antisocial; (b) child behaviors being targeted via the parents as the change agents; (c) the children being preschool or elementary school aged; (d) there being at least one control group and one experimental group; (e) each group containing at least five subjects; and (f) at least one outcome measure assessing the child's behavior. Results of their analysis indicate that children whose parents participated in a BPT program were better adjusted at post-treatment across measures than 80% of their peers.

This outcome generalized into the classroom where the children were reported to show better adjustment than three-fourths of their peers. Furthermore, it is intriguing to learn that parents also fared better, though specific outcome measures for parents are not defined. Parents who participated in the BPT programs were better adjusted than two-thirds of the parents who did not.

Besides remediation of deviancy and antisocial child behaviors, BPT has also been used to teach compliance, which is an appropriate response to an appropriate and reasonable request. Some researchers have used compliance training to this end. Compliance training involves rank-ordering a pool of possible requests from “high-probability of compliance” to “low-probability of compliance.” The parent is then instructed to make high-probability requests, and then to provide ample praise for compliance on the child’s part. After the child is reliably compliant, lower-probability items are gradually introduced, taking advantage of behavioral momentum, and only providing praise for compliance. Rortvedt and Miltenberger (1994) successfully augmented this procedure by having the parents use time-out continually upon child noncompliance. Ducharme and Popynick (1993), however, used no aversives and still increased compliance as well as gaining generalization to non-trained requests.

Life skills. Behavioral Parent Training has also been used to promote a variety of life-skills in both high- and low-functioning children. For example, Dahlquist and Gil (1986) sought to use BPT to teach good dental care in children. By announcing their study in dentistry and psychology classes, Dahlquist and Gil were able to obtain four participants for their study (i.e., one 9-, one 7-, and two 11-year-olds). Using a multiple base-line across subjects design, three intervention sessions were conducted per week.

The intervention package included explicit teaching of flossing, corrective feedback, prompts, teaching self-monitoring, and rewards for a certain level of plaque reduction. Results indicate that a significant level of plaque reduction occurred in all subjects.

In a study designed to evaluate the effects of BPT on parent and child feeding related behaviors (specifically chronic food refusal) in the child's natural eating environment, Werle, Murphy, and Budd (1993) worked with 3 boys and their mothers. Each of the boys (ages 21 to 54 months) displayed such severe food refusal that his parent had all but given up trying to introduce novel foods. One parent had instead taken to supplementing the child's diet with vitamin supplements and high-calorie snacks in order to stave-off malnutrition. The setting for all assessments and training sessions was the kitchen area of the family's home. Using a multiple-baseline across parent-child pairs design, target behaviors included child behaviors relating to novelty of food type and textures and parent behaviors relating to such things as positive attention and commands instead of suggestions or requests. Results indicate that home-based parent training can be sufficient to alter parent behaviors thereby resulting in improvements in target eating responses.

Lastly, Tiedemann and Johnston's 1992 study assessed the effectiveness of BPT in the promotion of sibling sharing. Forty-eight participants were randomly divided into three groups. There was an individual treatment group, a group treatment group, and a waitlist control group. Mothers in both treatment groups received basic developmental and child management information through didactic instruction, discussion, reading materials, and instructor modeling. Tiedemann and Johnston's results showed that the individual treatment group fared better than the group treatment group, and that each

fared better than the control group—the results were reported to be clinically significant. Effects were maintained at six-week follow-up.

Comparative evaluation. Studies such as these suggest that BPT's efficacy is far reaching, having impact on many possible areas of childhood functioning. A research study by Wells and Egan (1988) compared BPT's efficacy with that of a more traditional form of therapy—Systems Family Therapy (SFT). Subjects were 24 families referred to an outpatient child psychiatry clinic. The families were randomly divided into one of two treatment conditions. The “Social Learning Parent Training Group,” learned such skills as the proper use of praise, attends, commands, and contingent attention. The therapists for the SFT group looked for such things as enmeshed or disengaged subsystems, imbalanced hierarchies, covert coalitions, and avoidance tactics, and provided psychotherapy as needed. Results indicate that the BPT approach resulted in significantly higher levels of adaptive child behaviors than did SFT. There were no differences in parent anxiety, depression, and marital adjustment at post-treatment.

Optimizing Effects

Data-driven decisions. Besides looking at the various things that BPT can be used for, many studies have sought to examine various ways to optimize the effects of BPT. For example, Bahl, Spalding, and McNeil (1999) investigated the effects of data-based treatment decisions on the direction of treatment. Their case study involved a 6-year-old boy with mild developmental delays who met the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) criteria for oppositional defiant disorder due to his opposition and noncompliance to parental requests throughout the day. Using data from both direct observations and parent and

teacher interviews, the researchers were able to increase positive, and decrease negative parent-child interactions. Bahl, Spalding, and McNeil's results suggest that even though therapists do not always collect data for clinical cases, data might be used as a tool not only for determining the need for intervention, but also for determining at each step of the treatment process whether or not the treatment of choice is valid. Furthermore, data obtained from a client can be used for determining at post-treatment whether pre-set treatment goals have been met.

Another case study, this one by Reitman and Drabman (1999) also used a strictly data driven approach. In this case the parents of an 8-year-old boy with oppositional defiant disorder were instructed in how to collect functional data surrounding the time-out procedures that they used for a short list of "house rules." By going over the data with the parents, therapists were able to help them determine the exact functions of the inappropriate behaviors and tailor interventions appropriately.

Use of positive reinforcement. Also seeking to illuminate the most effective way to implement BPT, Forehand (1986) did a meta-analysis on the effectiveness of parental positive reinforcement with deviant children. In this two-part analysis, he first sought to investigate differences between parents referred to clinics for treatment for their children's deviant behaviors to studies where the parents were not referred to clinics. Secondly, Forehand reviewed studies that looked at consumer satisfaction with parental positive reinforcement. In the former case, Forehand sought to distinguish between the use of positive reinforcement between the group of parents. One of the assumptions of the BPT paradigm is that parents' lack of child rearing skills has an impact on child behavior, resulting in deviancy. Forehand sought to determine if positive reinforcement,

or the lack thereof, was one of those skills. Results of the studies reviewed indicated that failure on the part of the parent to use positive reinforcement is not a necessary correlate of child deviancy. That is, there was no difference in the use of reinforcement between clinic referred and non-clinic referred parents. While positive reinforcement was sufficient to achieve compliance in Ducharme and Popynick (1993, above), Forehand found that positive reinforcement alone is not sufficient to achieve or maintain behavior change in deviant children. It is unknown if this is due to a lack of utilizing such structured approaches as behavioral momentum or rank-ordering of request items in the cases reviewed by Forehand. Nevertheless, in the last part of the study, Forehand provides confirmation that parental positive reinforcement is considered acceptable and useful to both parent groups.

Terminology. Many other techniques and terms that clinicians use, such as “extinction,” “DRO” or “antecedent manipulation,” may seem distasteful or confusing to parents or laypersons. Because of this, Rolider, Axelrod, and Van Houten (1998) assessed the effects of using varying levels of technicality in explaining behavioral interventions to clinicians and laypersons. Research participants were 40 members of the general public who had no knowledge of behavioral principles and eight behavior therapists. Participants were presented with vignettes worded in normal conversational language, technical language, or conversational language followed by a description of the intended outcome of the intervention. The dependent variables looked at were (a) the degree of understanding, (b) the extent to which the treatment was considered legitimate, (c) the degree to which the treatment was considered compassionate, and (d) the degree to which the client in the vignette was seen as a participant in the treatment. Results

indicate that overuse of technical terminology causes unfavorable emotional reactions in people. Members of the general public were also more likely to consider the client as being in control when conversational language was used. When a summary of the intended benefits to the patient were attached, the views were even more favorable. As such, it is likely that BPT techniques to be taught to parents should beforehand be explained using terminology that is meaningful and understandable to the parent.

Treatment components. Because parental anger is often a correlate and antecedent of abuse of children, anger management and problem solving have been used in conjunction with BPT to increase its effectiveness as a deterrent of child abuse. In Scott, Baer, Christoff, and Kelly's (1984) case study, anger of a 36-year-old mother was found to be reliably predictive of abuse of her 11-year-old child, which included frequent harsh spankings and an incident of stabbing. Specifically, four antecedents were identified: (a) interpersonal conflicts with other adults in the mother's social network often resulted in her "holding in" her feelings only to later explode at her child, (b) the child's inappropriate behaviors (e.g. whining, noncompliance, tantruming), (c) feeling stressed about general life management (e.g. seeking employment, prioritizing household responsibilities), and (d) any incident of anger. All four antecedents were targeted for intervention. In constructing intervention, role-plays tailored to the mother's own problems were created. Furthermore the mother was trained in self- and child-data collection in order to monitor behaviors and feelings of anger. Results indicate that the acquisition of skills taught had a positive impact on the incidents of child abuse and parental anger control. Results also indicate that all four areas showed improvement immediately. During the progression of treatment sessions, probes indicated that skills

generalized to areas that had not been specifically trained. Furthermore, skills were maintained at 15-month follow-up, including those generalized. This study supports the use of skills training, including child behavior management skills, as a way to reduce the incidents of child abuse. As suggested by Scott, et al. (1984), it is difficult to directly intervene with child abuse because it is difficult to actually observe, but we can reduce the likelihood of occurrence by targeting the skill deficits present that are reported to occasion abuse.

Another study that incorporated anger-management components to augment the effects of BPT was done by Denicola and Sandler (1980). Two families were referred to social services for child abuse. Family one had a 7-year-old boy and family two had three girls: 5-, 4-, and 3-years-old. In both families, the father was usually absent and played a minimal role in raising the children. BPT and coping skills were taught during twelve 60-90 minute sessions using a two-variable withdrawal design. Results from parent interview, self-report data, and direct observation suggest that both parental and child behaviors improved and that improvements were attributable to the training received. Improvements were maintained at 3-month follow-up.

In Fetsch, Schultz, and Wahler (1999), a BPT workshop was offered to 99 individuals from the Colorado area. Training involved teaching knowledge of child development, appropriate parent-child interactions, and various techniques for recognizing, identifying, and controlling anger. Of the 99 participants, 75% completed pre- and post-assessment packets. Results indicate that there were improvements in many areas including family conflicts, various forms of aggression, and anger.

Hudson's 1982 component analysis of training parents of children with developmental handicaps examined the effectiveness of two individual components, instruction in the principles of learning and having the opportunity to receive guided practice. Subjects were forty parents of children who were developmentally delayed (mostly Down's Syndrome). Mothers were randomly assigned to one of four groups: (a) a training only group in which they were taught to train their children to perform certain behaviors, but were not taught the principles of the techniques they were using; (b) a training plus exposure to learning theory group; (c) a training, learning theory and guided practice group; or (d) a no treatment control group. Hudson's results indicate that a knowledge of the principles of learning theory was not significantly more effective than merely learning specific techniques via didactic instruction. Effectiveness was significant when parents were taught techniques plus had the opportunity to bring their kids into the lab for guided practice in training new behaviors to their children. The latter group also showed better generalization of skills. Each of the three experimental groups did better than the control group.

Component sequencing. Besides researching the different ways to administer the techniques to be taught, some researchers have looked at which components to use and what order to administer them in. A study by Walle, Hobbs, and Caldwell (1984) looked at the different ways to present time-out and attention and their effects on both child behavior and acceptability by parents. Twenty-five mothers of children 2-6 years of age were randomly divided into one of four conditions: time-out only, attention only, time-out plus attention, or control. Walle et al.'s results agree with Forehand's 1986 results (above) that positive reinforcement alone is insufficient to reduce deviant behaviors.

Wall et al. looked at less severe, noncompliant behaviors in children, but had the same finding that positive reinforcement alone is an insufficient intervention. Time-out alone curbed the behavior but did not suppress it. The most effective combination was time-out to reduce the noncompliant behaviors, then attention to maintain compliance. The treatments were rated as acceptable regardless of their order of presentation. It should be noted that while Rortvedt and Miltenberger (1994, above) also used time-out along with graded compliance training, Ducharme and Popynick (1993, above) did not use time-out and were still able to increase compliance a great deal, as well as gaining generalization to non-trained requests. This suggests that the well informed clinician has many options available to treat child noncompliance via BPT.

Effects of dosage. Also seeking ways to optimize the effects of BPT, Tucker et al. (1998) assessed the effectiveness of dosage on maternal self-efficacy and mother-child interactions (both assessed via questionnaire). Participants in the study were 23 families who were divided into an intervention group or a control group. There were two independent variables in the study. One was the effect of dosage (i.e. amount of homework assigned and number of sessions attended) on outcome at post intervention as concluded by within-treatment group analysis, and the other was the effect of time on one-year follow up. Results indicate that increased dosage had the effect of decreased mother punitive behaviors and mother critical statements within the treatment group -- all of whom fared better than control group families in both mother-child interactions and maternal self-efficacy. These results were present at post-intervention and one-year follow-up.

McDonald and Budd (1983) sought, as did Tucker et al. (1998; above), to use increased levels of training to optimized benefits of parent training. McDonald and Budd also used data to determine direction of intervention as did Bahl, Spalding, and McNeil (1999; above). McDonald and Budd's study used graphic "booster-shots" following didactic BPT to increase its effectiveness. Using a single-case design with one mother and her seven-year-old son who was diagnosed with Down's syndrome, researchers did in-home training for 40 minutes, three times per week, for 3 weeks. Following didactic training, any areas that needed improvement were presented graphically to the mother during one-hour feedback sessions. The areas that needed improvement were pure commands and specific praise following child compliance. After receiving feedback booster shots, mother's behaviors improved, which was followed by an increase in child compliance. Results were still present at 10-week follow-up.

Removal of reinforcement. One of the very powerful tools in the behavioral consultant's repertoire is the time-out procedure. Time-out is typically used as a behavior reduction procedure that consists of removing an individual from a reinforcing environment, contingent upon some undesirable behavior. As mentioned above, Walle, Hobbs, and Caldwell (1984) used different sequences of time-out and positive reinforcement and found that positive reinforcement plus time-out was more effective than either one alone. An implication of this, with respect to time-out, is that time-out should be accompanied with "time-in" for it to be optimally effective. Another way of phrasing this is that a person's regular environment must be pleasant in order for them to work to avoid being removed from it.

Other researchers have also experimented with different ways of optimizing the use of time-out. McNeil, Clemens-Mower, Gurwitch, and Funderburk's 1994 study assessed the effectiveness of the "two-chair hold" method as a follow-up for time-out escape. Historically spanking has been used as a follow-up for preschoolers who escape from time-out. Although the spank has been effective for some, trends away from its use have necessitated the development of alternative procedures. The two-chair hold procedure consists of taking the child to a second chair, where the parent sits behind the second chair and restrains the child for a given amount of time by placing the child's right arm under the left arm and then holding the left arm to prevent movement. After the time spent in the second chair, the child is put for a brief time in the original time-out chair. The procedure is repeated if necessary. Using the two-chair hold method on 22 children that were referred for behavior problems, McNeil, et al. found that the occurrence of time-out escape decreased. A general improvement in behavior was also noted in the children.

A procedure proposed by Reitman and Drabman (1996) for getting noncompliant children into time-out involves counting on one's fingertips for each word spoken by a child on their way to time out. In this procedure, when a child is told to go to time-out, and the child argues with the parent, instead of arguing with the child, the parent counts the number of words said on his or her fingertips. It is understood that for each word, the child has to spend an additional minute in time-out.

Assistive technology. Besides the analyses of the components of BPT procedures, some researchers have used various tools in the general application of BPT procedures. Two examples of this are Danforth (1999) and MacKenzie and Hilgedick

(1999). Danforth's study involved a mother of twin, four-year-old boys with ADHD. Danforth provided the mother with a BPT flowchart to take home and follow. After preteaching the component skills included in the flowchart, the mother was instructed to use the flowchart as a tool in implementing the appropriate procedure. Results indicate that both parental and child behaviors improved with use of the flow chart. MacKenzie and Hilgedick's study used a "computer-assisted parenting program" to teach BPT skills. Participants, 24 undergraduate students and 46 mothers of children were divided into one of three groups, computer assisted, booklet, or control. Results indicate that knowledge of BPT principles increased more for the computer-assist group than for either of the other groups.

Treatment acceptability and consumer satisfaction. In addition to the efficacy of the behavioral approach to parent training, consumers must consider the techniques appropriate and useful if they are to utilize them. Because of this, in addition to assessing paternal satisfaction as a side-measure, several studies have focused solely on acceptability of techniques to parents and consumer satisfaction. Calvert and McMahon (1987) sought to investigate parental views of the acceptability of different components of a BPT program and the manner in which lessons should be taught to children. Participants were 90 non-referred mothers of children ages 3 to 8 who had not received BPT. Mothers varied with respect to ethnicity, marital status, level of income, and years of education. Mothers reviewed packets of materials that contained vignettes and questionnaires about the acceptability of using: (a) positive attends; (b) rewards for good behavior; (c) ignoring bad behavior; (d) complete commands; (e) time-out; (f) method of delivering instruction; and (g) overall rating of the program. Furthermore, there were

three different types of packets that were randomly delivered. Contents of the packets were (a) a description of the techniques only; (b) a description of the techniques plus a rationale for why they are used; and (c) description of the techniques plus rationale and applied examples. Results indicate that methods used to increase behaviors (i.e. attends, rewards, and commands) were found to be overall more acceptable than techniques to decrease bad behaviors (i.e. time-out and ignoring). Parents who were supported with a rationale for the techniques tended to rate the techniques more favorably than those that were not offered a rationale. Contrary to prediction, however, those parents who also received an applied example tended to rate the techniques as less acceptable.

Hobbs, Walle, and Caldwell's 1984 study, while having a smaller sample size of $N = 28$ divided into three treatment conditions and one control, may be more generalizable than Calvert and McMahon (1987; above) to clinical settings. Participants were mothers of noncompliant children ages 2-6 years old. Mothers were divided into one of four groups: (a) social reinforcement; (b) time-out; (c) social reinforcement plus time-out; or (d) a no-treatment control group. Mothers in the social reinforcement group were trained to provide positive attends to their children upon compliance to commands. Mothers of the time-out group were taught to correctly administer time-out for two minutes continuously upon the occurrence of noncompliance. Mothers of the social reinforcement plus time-out group were taught both. Lastly, mothers of the control group were not taught any skills. Data were collected on effectiveness and the acceptability of each. Noncompliance decreased for the social reinforcement group and social reinforcement plus time-out group, but increased for the time-out only and control groups. Unlike Calvert and McMahon (1987), Hobbs, et al's study demonstrated no

differences in the acceptability of the different conditions. This is suggested by Hobbs et al. to be attributable to the different mode of presentation.

Forehand, Steffe, Furey, and Walley (1983) did a follow up analysis of parental satisfaction with skills obtained from BPT. Specifically, the study sought to compare consumer satisfaction with regard to parental perceptions of child adjustment and maternal satisfaction at pre- and post- training with satisfaction upon follow up contact. Participants were 34 mother-child pairs that had completed a BPT program at different previous times between the years of 1975-1981. Participants varied with respect to age, level of income, and severity of child behaviors. Average latency between training and follow up was 3.6 years. Results of the study indicated a high level parental satisfaction and maintained levels of child adjustment at follow up.

Carry-over effects. The last benefits of BPT reviewed are its carry-over effects onto other aspects of parents lives. Wells and McMahon's 1982 study explored the side effects of BPT on self-report of marital satisfaction. Participants in the study were 27 mother-child pairs. Children were 12 noncompliant females and 15 noncompliant males. Participants were divided into three groups: low, medium, and high marital satisfaction at pre-assessment. This was done in order to determine whether level of satisfaction was related to relative gain in satisfaction. The three groups did not differ with respect to child age or income level of the household. Training successfully resulted in gains in child compliance for all mothers. Results of the self-report of marital satisfaction indicate that there was an increase from pre to post treatment, but that the effect only occurred for those who had an initial low level of marital satisfaction. Furthermore the effects disappeared after two months.

A similar study by Pisterman et al. (1992) examined the effects of BPT on self-report of parenting stress and sense of confidence. Ninety-one families of preschoolers who had clinical diagnoses of attention-deficit hyperactivity disorder participated in the study. Subjects were randomly divided into a wait-list group and a treatment group that received training designed to decrease child noncompliance. Results indicate that the treatment group showed improvement in both parenting stress and sense of confidence as indicated by self-reports.

Summary

In summary, reports of child abuse and neglect come into social service agencies at an alarming rate (National Center on Child Abuse and Neglect, as reported by the Department of Justice, 2001). Research suggests that one of the most likely predictors for this is maternal abuse of the parent in her own childhood and that familial stress plays a large part in mediating the occurrence of abuse (Salzinger et al, 1992). A specific social learning model of how this might occur is offered by Patterson (1982). Dubbed the *Coercive Family Process*, this research-based model describes how child assertive behaviors and attention-seeking, coupled with parental stress and selective attention may result in a cycle of escalating violence leading to abuse of the child, child deviant behaviors, or both (Biglan et al., 1990; Patterson, 1980; Patterson & Forgatch, 1990; Patterson & Littman, 1967). One effective means of intervention involves working directly with parents, teaching them to avoid the coercive process by using such skills as attending primarily to appropriate behaviors, avoiding reinforcement of inappropriate behaviors, and providing clear expectations for their children. This form of intervention is typically called behavioral parent training (BPT; Latham, 1996; Shriver, 1998).

Behavior parent training has a long history of use (Long, 1997; West & Hamerlynck, 1992) and has been demonstrated to have positive effects on both parent and child functioning (Graziano & Diament, 1992). The uses of BPT range from intervention for child abusive parents (Bourn, 1993; Wolfe et al., 1982; Wolfe et al., 1988), to intervention for a variety of problem child behaviors (Ducharme & Popynick, 1993; Reid, 1982; Rortvedt & Miltenberger, 1994; Serketich & Dumas, 1996), to such things as teaching basic life skills (Dahlquist & Gil, 1986; Tiedemann & Johnston, 1992; Werle et al., 1993).

Much of the research reviewed for this study was designed to determine ways to optimize the effects of BPT, consumer satisfaction, and carry-over benefits for parents. Bahl et al. (1999) and Reitman and Drabman (1999) focussed on using entirely data-driven approaches to treatment. Others have focussed on the usefulness of parental positive reinforcement (Forehand, 1986) and the effects of removing reinforcement (McNeil et al., 1994; Reitman & Drabman, 1996; Walle; 1984). Because much of the terminology used in behavioral literature is extremely technical, Rolider et al. (1998) demonstrated that members of the general public were much more receptive to treatments that were accompanied by explanations delivered in everyday language. Much research has been devoted to determining what components are important to include in treatment packages (Denicola & Sandler, 1980; Fetsch et al., 1999; Hudson, 1982; Scott et al., 1984) and what to do with those components in terms of sequencing (Walle et al., 1984) and dosage (McDonald & Budd, 1983; Tucker et al., 1998). More recent research has looked into the effects of using various forms of assistive technology in BPT programs (Danforth, 1999; MacKenzie & Hilgedick, 1999). Researchers have examined influences

on treatment acceptability to parents (Calvert & McMahon, 1987; Hobbs et al., 1984) and parents' levels of customer satisfaction (Forehand et al., 1983). Lastly, several articles have focussed on BPT's has carry-over effects onto other areas of parents' lives, including marital satisfaction (Wells & McMahon, 1982), parenting stress, and sense of confidence (Pisterman et al., 1992).

The present study sought to examine the effects of BPT on parental depression and anger as well as child behavior. Specifically, the purposes of this study were two-fold: (a) to see if improved parent-reported levels of child behavior problems, parental anger state and trait expression, and parental depression were present at post intervention, and (b) to test for interaction effects related to demographic variables of the participants involved.

Methods

Participants and Setting

Participants. One hundred-nineteen subjects were included in the study. As indicated by Table 1, parents varied according to age, age of children, income level, referral source (government agency or other), single parent home versus cohabiting, and history of prior treatment or counseling. Self-reported ethnicity was predominantly Caucasian at approximately 72 percent, while approximately 14 percent were Latino/Hispanic, five percent were Native American, and eight percent were from other backgrounds. Of parents participating, approximately 42 percent were male and 58 percent were female. Mean age for participants was 31.64 years ($SD = 9.73$) and mean age of children was 4.37 years ($SD = 3.75$).

Place Table 1 about here

Participants were informed that assessment was voluntary and that the treatment was not contingent on assessment participation. Participants paid a per session fee of \$5.00 to \$10.00, depending on income.

Setting. Training sessions occurred at The Parenting Place, a non-profit organization. Pre- and post-assessment sessions also occurred at the same locations. Two Parenting Place locations were available for the convenience of the community and both were utilized for the current study. Participants in the study were assessed in their corresponding training location.

Treatment facilitators.

Treatment facilitators were two Parenting Place staff members with experience working with parenting and anger control issues. The treatment facilitators lead the group training portions of the study, presented the didactic portions of the training, and conducted the assessments. The treatment facilitators also presented, explained, and assisted with the self-report questionnaires for those choosing to participate in the assessments. Six undergraduate psychology students who were appropriately trained were also present to assist parents with the questionnaires.

Materials

The Nurturing Program: For Parents and Children Birth to Five Years (Bavolek & Bavolek, 1988) parent handbook was used by the treatment facilitators as a guide book for the topics in parenting and anger-management. The Nurturing Program was developed by Bavolek and Bavolek using principles and techniques previously validated through research (Bavolek, 1984; Bavolek & Bavolek, 1986). During the first year of the 3-year study the undergraduate assistants used various video-recording equipment: tapes, camera, and microphones.

Assessment Instruments

Portions of the widely used Child Behavior Checklist-Parent version (CBCL; Achenbach, 1978), a 113-item parent-report checklist, were implemented to assess parental perceptions of child externalizing problem behaviors. The validity of the CBCL is attested to by its ability to discriminate between demographically matched referred and nonreferred children and because of its good scale-by-scale correlations with scales from similar checklists. The portions of the CBCL that were used were Scale 7 (Aggressive Behaviors), Scale 8 (Delinquent Behaviors), and their composite, the Externalizing Behaviors scale which has a test-retest reliability of .93 (Achenbach, 1991).

The State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988) is a 44-item instrument that forms six scales. The two main scales, Trait Anger and State Anger, were examined in this study. The Trait Anger scale was designed to assess an individual's propensity toward expression of anger and is similar to the concept of "personality." The State Anger Scale is designed to assess a person's current state or

feelings and is similar to the concept of mood. State and trait scales of the STAXI show correlations with anger scales on other inventories such as the Buss-Durkee Hostility Inventory (BDHI; 1957) and the Hostility (Ho; Cook & Medley, 1954) and Overt Hostility (Hv; Schultz, 1954) scales of the Minnesota Multi-Phasic Personality Inventory (MMPI) that are generally significant at the $p < .005$ level (Spielberger, 1988).

The Beck Depression Inventory-Second Edition (BDI-2; Beck, Steer, & Brown, 1996), a widely used 21-item instrument that probes cognitive, somatic, behavioral, and affective symptoms of depression was used to assess self-report levels of depression. Psychometric data from the DBI-2 indicates that it reliably differentiates individuals with mood disorders from those with anxiety, adjustment, or other disorders and that it is able to discriminate between individuals with differing levels of depressive symptoms.

In addition to the various norm-referenced devices used, a demographic questionnaire was utilized to collect information regarding marital status, gender, age, income level, ethnicity, referral source, and history of counseling, as well as number, and age of children.

Procedures

Pre- and Post-Assessments. On the first training session parents were greeted and introduced to the Parenting Place environment. The Parenting Place provided free child day-care during training sessions, drinks and refreshments, and information for various other community and state resources, as well as the Nurturing Program (Bavolek & Bavolek, 1988). Parents were invited to participate in a study designed to assess the effects of the Nurturing Program on their feelings and behaviors in an effort to comply with state agency funding suggestions. No coercion was used and it was explained to the

parents that they could receive aid and parenting classes whether they chose to participate in the study or not. Information from the consent forms concerning confidentiality, ability to withdraw at any time, and the right to refrain from answering any item was provided to the participants in a consent form and explained orally. Those participants who chose to participate were given an opportunity to read and sign the consent forms prior to assessment. Assessment consisted of presentation of a demographic questionnaire and the assessment instruments. Parents were given instructions for filling out the questionnaires and provided with additional help (i.e. items read to them by staff) as needed.

Community treatment provided by Parenting Place Facilitators. Parents participated in the Nurturing Program regardless of participation in the study. Treatment as guided by the Nurturing Program (Bavolek & Bavolek, 1988) consisted of training in empirically supported methods of child behavior-management, stress-management, anger-control, and problem-solving.

Parents were taught to increase appropriate child behavior by using complete clear commands consistently applied with rewards and non-abusive punishment. The use of family rules was taught as a way of establishing the identification of appropriate and inappropriate behaviors. The difference between bad behavior and bad people was emphasized when teaching behavior change methods in an attempt to discourage emotion-charged parental responses to inappropriate child behaviors and thereby to lessen the impact of disciplinary procedures on children's and parents' self esteem. Appropriate monitoring and reinforcement of desirable behaviors were introduced as an important component of increasing good behavior.

Stress-management and anger-control training were primarily geared toward self-monitoring and self-management. Parents were taught to become aware of and to own their own feelings and thoughts. Exercises for the personal identification of antecedents and setting events, as well as maintaining consequences of troublesome behaviors were conducted. Similarly, parents were taught rudimentary thought-stopping techniques. Techniques for general stress-management included: (a) organization skills, (b) environmental manipulations such as creating a social network or creating a personal “me” space, (c) improvement of communication skills, (d) attitudinal tips, and (e) techniques for improving physical health. Training also included rules for “fair fighting” and a six-step model for problem-solving.

Design and Analysis. A pretest-posttest group quasi-experimental design was used. The above mentioned assessment instruments (i.e. CBCL, BDI-2, STAXI) were administered in standardized fashion at both pretest and posttest. Self-report of demographic information was also collected. During the first year of the study video was collected for the responsible investigator to ensure integrity of treatment. Analyses of variance and covariance were used to determine the presence of main and/or interaction effects, respectively.

Preparation of data. Fifty-four percent of subjects were excluded from analysis. Data from individuals who did not participate in the posttest because of withdrawal from training were culled from the data pool to prevent selection effects when comparing pre- to post-test data. Attrition was the leading factor in exclusion from analysis and accounted for virtually all of the data removed. In addition, if subjects responded inconsistently or incompletely on the scales, pre- or post-assessment, or if subjects

hurried through the scales by making a big zero across an entire page of any of the questionnaires pre- or post- assessment instead of reading and answering each item separately, their scores were considered to be in question. All data for said subjects were removed from the data set.

Data for individual scales were removed using the following criteria: if there was an omission of more than eight questions for the Child Behavior Checklist-Parent version (CBCL; Achenbach, 1978; Achenbach & Edelbrock, 1979), or five questions on either the Beck Depression Inventory-Second Edition (BDI-2; Beck, Steer, & Brown, 1996), or either one of the two State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988) scales, the entire scale, pre and post, for that subject was omitted from statistical analysis. After culling the data as described above, data entry reliability for each scale analyzed was calculated for 20 percent of the subjects in the pool. Data-entry reliability was calculated to be 99.5 percent for the Beck Depression Inventory-2, 99.9 percent for the State-Trait Anger Expression Inventory, and 99.6 percent for the Child Behavior Checklist. Overall, total data-entry reliability was 99.7 percent.

Results

Initial analyses were conducted for each dependant variable (i.e. CBCL scales, BDI-2, and STAXI scales) using one-way ANOVA to determine pre- to post-training main effects. Pending results of initial analyses, interaction effects were assessed using covariate analyses. Demographic variables of interest for this study were gender, socioeconomic status, living alone versus cohabitation, referral source, history of alcohol or substance abuse, and ethnicity.

Parental Perception of Child Behaviors. Results of analysis of variance indicate that the effects of the Bavolek and Bavolek Nurturing Program: For Parents and Children Birth to Five Years (1988) was related to a significant, $F(1, 99) = 5.14, p = < .05, n = 100$, pretest-posttest difference in child aggressive behaviors as measured by the Child Behavior Checklist (Scale 7, CBCL; Achenbach, 1978; See Table 2). Selected demographic items were each independently used as covariates with the CBCL Aggressive Behavior subscale to assess for interaction effects. When gender was used as a covariate for the Aggressive Behavior scale, results were significant at the $p < .05$ level, $\beta = 5.02, p < .05, n = 99$. Difference of mean pre- and post-test T-scores for gender were, males = 2 and females = 3. This difference brought each group from above average (males pretest $M = 60$, females pretest $M = 61$) to normal range (males posttest $M = 58$, females posttest $M = 58$; see Table 3). Though interactions were not statistically significant for the other analyses, the general trend was that Government Referred individuals and couples seemed to show greater improvements and participants in the above twenty-five thousand dollar yearly income range seemed to respond better than those of below twenty-five thousand dollar yearly income. Initial results yielded no significant findings for Externalizing Behavior Scale or Subscale 8, Delinquent Behavior Subscale.

Place Table 2 about here

Place Table 3 about here

Beck Depression Inventory-2. Main effect of the Nurturing Program (Bavoleck, & Bavoleck, 1988) on Parental Depression as measured by the Beck Depression Inventory-2 (BDI-2; Beck, Steer, & Brown, 1996) was highly significant, $F(1, 206) = 13.75$, $\eta^2 = .07$ (See Table 2). Analysis of variance indicates a difference between pre- and post-assessment that is significant at the $p < .01$ level.

Covariate analysis indicate that gender was significantly related to effects, $\beta = 9.60$, $p < .05$, $\eta^2 = .04$. Direction of interaction was that females showed significantly more improvement than their male counterparts. Scores from BDI-2 were converted to T-scores to facilitate ease of comparison. Results yield a female pretest of $M = 61$, and posttest of $M = 51$, and a male pretest of $M = 51$, and posttest of $M = 46$, with a magnitude difference of 5 T-score points. Additional analysis of covariance yielded no significant outcomes; however, one subclinical trend for depression was that individuals with a history of substance or alcohol abuse seemed to show greater improvements in depression than their counterparts who had no such history.

State and Trait Anger Expression. Analysis of variance for the State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988) did not yield significant change in parental state, $F(1, 233) = 0.75$, $p = .39$, $\eta^2 = .003$, or trait, $F(1, 214) = .326$, $p = .57$, $\eta^2 = .001$, anger expression.

Discussion

The present study suggests that behavioral parent training (BPT) programs such as the Bavolek and Bavolek Nurturing Program: For Parents and Children Birth to Five Years (1988) that incorporate stress- and anger-management components may be effective for areas of parental concern reaching beyond the facilitation of increased adaptive behaviors in their children. Specifically, besides showing statistically significant improvement in parentally reported child delinquent behaviors (as reported by the Child Behavior Checklist, CBCL, Achenbach, 1978) and subclinical improvements in state- and trait-anger expression (State-Trait Anger Expression Inventory, STAXI, Spielberger, 1988), this study achieved highly statistically significant improvements in parental depression (Beck Depression Inventory-2, BDI-2, Beck, Steer, & Brown, 1996).

Specific findings of this study have many implications for clinicians and consultants of parents. For instance, differential outcomes were found for men and women that may make the results of this study more relevant for different professionals depending on their treatment goals. The effects of depression for females alone are of importance. Major Depressive Disorder is known to be twice as common among adolescent and adult females as in adolescent and adult males (APA, 1994). This may well be reflected in results of BDI-2 scores that indicate that female levels of depression were one full standard deviation above male at pretest (mean T-scores, 61 for females, 51 for males). Analysis of covariance indicate that female levels of improvement were statistically more pronounced than that of male levels. A possible implication of this has to do with anecdotal evidence suggesting that stress-management techniques (Garber & Hilsman, 1992 as cited in Ollendick and Hersen, 1998), combined with the increased

parental self-efficacy that can accompany BPT (Tucker et al., 1998) are possibly related to the improved levels of maternal depression. Even though this is speculative, if it is true, then besides having the importance of improved quality of life for the parent, improved parental depression levels also may have a Pattersonian impact for the quality of life for the child (Patterson, 1982). It has been documented that parental stress is a precipitating occurrence contributing to enmeshment in the negative reinforcement trap (Patterson, 1980, 1982). If there is a relationship of teaching stress-management to parents influencing the coercive cycle and parental depression, then important areas of research may be confirming this relationship and finding a more effective way to teach stress-management to fathers so that they, and their children, may reap the even more benefits from parent training.

Converse to the findings that females fared better in levels of depression, visual examination of the data showed that, while at pretest, male and female levels of anger expression were virtually identical, males had greater pre- to post-treatment improvements. Male improvements on levels of anger expression were sufficient to put them in the below average clinical range at post treatment (pretest means, males = 44, females = 43, posttest means, males = 39, females = 42). Several implications can be drawn from these findings. Because anger-management is a known effective ingredient in teaching parents more effective and appropriate child-management techniques (Barth, Blythe, Scuinke, & Schilling, 1983; Campell, O'Brien, Bickett, & Lutzker, 1983; Nomellini & Katz, 1983), it would be best practice for clinicians to use the most effective techniques available to reduce anger levels. The present study also suggests that traditional forms of cognitive-behavior self-management alone may be ineffective when

working with female populations. As an example of diverse options, Joyce (1995) used rational-emotive behavior therapy components and showed significant decreases in parental anger though there is no mention of gender interaction effects.

Another point of interest is that males reported improvements in their children's aggressive behaviors that were significantly greater than reported improvements for females (though clinically, the results were similar; pretest means, males = 60, females = 61, posttest means, males = 58, females = 58). Despite the clinical similarities, the statistical differences for men and women is somewhat perplexing because of the high percentage of participants who were cohabitants with each other. That is, 40 percent of participants were from two-parent homes and of those, the other parent was usually undergoing BPT concurrently. Also, only 42 percent of participants were males. Thus, even though a small percentage of the participants may have been from same-sex dual-parent households, it is likely that most couples were heterogeneous, thereby indicating that there were very few single father participants. This means that most of the male raters of children's behavior had a female partner rating the same children. Considering all of this, one would wonder why there was such a discrepancy between male and female rating of child aggressive behaviors. One explanation comes from Achenbach (1991). In general, females tend to rate children's behavior slightly higher. Because the Scale 7, Aggressive Behaviors Scale, has an inter-parent reliability of .78, this only accounts for part of the variance. Another source of discrepancy may come from the relationship differences between mothers and fathers with their children. As Patterson (1980) points out, in the typical family the father spends less time with the children and is subjected to less interfamilial stress. These findings of fathers reporting greater improvements in

child behavior support Russell and Matson's findings (1998) that fathers (for whatever reason) can be effective change agents in their children's behaviors. Another suggestion of these findings is that it might be more conservative of the clinician or consultant to use maternal, instead of paternal, rating of child behavior as a gauge of child problem behaviors.

Comparisons of different ethnic groups provide information that may be of use to clinicians and behavioral consultants. This is especially true in light of the fact that, while the number of ethnic minorities in American has increased in proportion, the amount of research in the behavioral literature has decreased proportionally (Iwamasa & Smith, 1996). As stated by Iwamasa and Smith, this is especially disconcerting when considering that the American Psychological Association's (1992) Ethical Principles of Psychologists and Code of Conduct require the consideration of "individual differences." In this study, Caucasians as compared to members of other ethnic groups, showed no better improvement in any area. This suggests that for the independent-dependant variable relationships in this study, benefits may be as effective for ethnic minorities as they are for Caucasians. It is interesting to note that Caucasians reported more severe child behavior problems. On pretest assessment, T-score means for Externalizing, Aggressive, and Delinquent Behavior Scales were, for Caucasians in the clinically above average, $M_s = 60, 62, \text{ and } 61$, respectively, and for members of other ethnic groups combined were in the average range $M_s = 55, 57, \text{ and } 59$, respectively. It is unknown whether this is due to (a) ethnically related differences in child behavior, or (b) differences in parental perception of child behaviors for Caucasians, as compared to minorities. More specific visual comparisons were conducted between Latinos and

Native Americans because they were more equal in proportion of participants than any other ethnic groups (Latino = 14%, Native American = 5% of sample). Results of comparison show that participants of Native American background fared better in the areas of parental depression and child behavior problems than did their Latino/ Hispanic counterparts (Latino \underline{M} s pretest = 52. Posttest = 44, Native American \underline{M} s pretest = 56, posttest = 40) though not at a level of statistical significance. This could be because many of the Native American participants were referred by tribal counsel, thereby resulting in a higher proportion that were “government” referred. As discussed below, participants who were government referred tended to do slightly better than self-referred individuals. Whatever the reason for these discrepancies, even though they are not of statistical significance, findings like these remind us of the need for clinicians and consultants to be as familiar as possible with the ethnic group they are working with in order to provide the most meaningful and effective assistance possible.

Comparisons were made of participants who were of below twenty-five thousand dollars annual income with participants who were above. Visual inspection of mean differences indicate that participants of higher SES (mean difference of six T-score points from pretest to posttest assessment) fared better on improvements of child aggressive behaviors than did participants of lower SES (mean difference of two T-score points from pretest to posttest assessment). Though covariate analysis did not yield significant findings, the difference for participants of higher SES represents a shift from above average, to average clinical levels (pretest \underline{M} = 60, posttest \underline{M} = 54). These findings are consistent with those of Knapp and Deluty (1989) that parents of disadvantaged socioeconomic status tend to show less benefit from behavioral parent training. Visual

inspection of means also revealed that members of higher SES showed greater improvement in trait anger, though pre- and post-assessments both resulted in T-scores that were in the average range for each group (high SES $\underline{M}_s = 47$ and 41 , low SES $\underline{M}_s = 43$ and 41 respectively for pretest and posttest assessments).

The literature indicates that parents of insular households are at higher risk of child behavior problems and child abuse (Christmas, Wodarski, & Smokowski, 1996). The current study supports this, though not greatly. Differences in T-score means for Externalizing, Aggressive, and Delinquent Behavior Scales were consistently higher for parents of single-headed households, though the difference was not of clinical impact. It should be noted that for the latter two groups, pre- and post-test differences were of clinical significance. Upon pretest assessment, T-score means for participants of single-headed households were $\underline{M}_s = 59, 61, \text{ and } 61$, respectively, and for parents of dual-parent households were in the average range $\underline{M}_s = 55, 57, \text{ and } 59$, respectively. At posttest, means were all in the average range (See Table 3).

The last demographic comparison of interest for this study is referral source (i.e., court, social services, or other government agencies versus participants that were self- or other-referred). The knowledge that participants who were court-referred reported greater improvements in all domains of child aggressive behaviors than their self-referred counterparts in may lead many to speculate. One logical conclusion is that individuals who have received government attention probably were worse off to start with in terms of child abuse and problem-behavored children and that this is how they came to the attention of the government via social services or other court referral. Such participants would show greater improvement because they were worse off to start with and simply

due to regression to the mean. In fact though, visual inspection of means show individuals who were court referred reported overall fewer problem child behaviors at pretest assessment than individuals who were referred from other sources (total pretest means of 59 and 61, respectively). One possibility for this is that there may be a higher need of perceived social desirability in individuals who were court-referred resulting in response confabulations and thus tainting parental reports of child behaviors. This could be ascertained by comparing parental reports with direct observation of child behaviors in these families, and may be a wise precaution for the practicing consultant.

The finding that court-referred subjects also showed improvements in depression that were more dramatic than that of their self-referred counterparts could be representative of several things. It could simply be that there is relief that they are meeting, and will soon be free from, the legal requirements imposed upon them of having to participate in the parent training. A requirement that is accompanied, not only by the threat of loss of children, but by the stigma of being a child abuser. As suggested by Patterson (1982), parents do not likely make a conscious choice to be abusive toward their children; they fade into it gradually by natural processes. So when parents use harsh spanking, leaving bruises -- and worse -- on their children they may not be aware, or may choose not to be aware, that they are committing child abuse (to the extent that self-deceit may be a reinforcing avoidance response). When social services gets involved, a parent must face the reality that what they are doing is physically abusive and damaging to a loved one. For most people this would contradict the view of who they are as a person and thus could create an internal conflict. This aversive state was coined by Festinger in 1957 as cognitive dissonance. Becoming educated about the differences between bad

people and bad behaviors, and learning more appropriate and effective ways of handling problem child behaviors and personal feelings may be sufficient to realign behaviors with internalized perceptions of self, thus reducing the level of dissonance and alleviating depression. Though the effects of cognitive dissonance in this study are entirely speculative, this does suggest an interesting area for future research.

While the results of this study are encouraging, needless to say, mention of the limitations herein should be discussed. As is true for many community program evaluation studies, there was an unavailability of a control group. In the current research, this was unavoidable. Upon inception, this study had a waitlist control group. This piece of the methodology was however, discouraged by local courts and the grant-funding source and was considered unacceptable by Parenting Place board members. This was the case despite numerous attempts to demonstrate the potential benefit of a waitlist group (i.e. stronger demonstration of the efficacy of Parenting Place treatments) and the low need for deviation from current services (i.e. with numbers of parents in need being higher than the volume of parents that can be accommodated at one time, many parents had to be waitlisted anyway).

The unavailability of a control group in this study poses several threats to both internal and external validity. Internal validity, or the degree to which we can be certain that the changes in parental responses *was a result of the intervention*, may have been effected by at least seven factors (Martella, Nelson, Marchand-Martella, 1999). These factors include: testing, history, maturation, selection, statistical regression, mortality, and instrumentation.

Testing. The effect of “testing” occurs when participants’ improvements are caused, at least in part, to the pretest. An example of this would be if the parents in the present study learned from the pretest Child Behavior Checklist (Achenbach, 1978) what types of behaviors in their children are considered problematic. Knowing that their goals are to achieve improvements in child behaviors over the next ten weeks, the parents then focus on these behaviors when administering discipline. As a result, the types of items that are on the checklist get scored lower during posttesting. When this is the case the pretest, in effect, becomes part of the intervention. In short, the threat of test effects cannot be eliminated in the current study.

History. History is another threat that the current study is subject to. The effect of “history” occurs when something happens between pre- and post-assessment, other than the intended intervention that results in changes of the independent variable. An example of this would be if the mere act of participating in a community self-help program was sufficient to cause improvements in depression, anger expression and perception of child behaviors. The experimenter may make the conclusion that the intervention is the variable that caused the changes when in fact it was any combination of variables that were present (and common for the participants) between pre- and post-assessments.

Maturation. Maturation is a phenomenon that occurs when the changes in the dependent variables happen due to natural processes in the subjects. A hypothetical example of this would be if Parenting Place were a long-term facility that brought parents in within one week of the birth of their first child. Parenting Place would assess the parents with respect to their knowledge of child rearing. After this, Parenting Place

would train the new parents for a full three years then assess their knowledge again. It would be difficult to determine if an increase in the knowledge of parenting was due to the training or simply due to the natural consequences of being a parent for three years. It is believed that maturation poses little threat to the current study. The rationale for this is that the current study involved parents and children of differing ages. Furthermore, many of the parents involved were not “first-time” parents. For these individuals most of the natural maturation related to parenting had likely already occurred.

Selection. Selection occurs when the members of a treatment group differ in some way to members of a control group because they were not randomly assigned. A situation in which this could have been a problem for the current study is if pretest data for participants who withdrew before posttest were used for statistical analysis of changes in the dependent variables. This would have been a problem because the posttested sample may have possessed “stick-to-itive” qualities that were not as concentrated in the original pretested group. These stick-to-itive qualities could have accounted for the changes seen. This is not a concern for the current study because the only data analyzed were from subjects who participated in both pre- and post-assessment.

Statistical regression. This phenomenon, also known as “regression to the mean” occurs because there is natural variability in baseline data of the behavior of an organism. That is to say, behaviors will naturally deviate to and from mean levels of occurrence, if we measure them when they are at their furthest point from the mean, they will naturally return to a level closer to mean level of occurrence. In the current study, considering that nearly 70 percent of the participants were government-referred for training, one might hypothesize that these people only came to the attention to social services agencies

because of the natural fluctuations in child abusive behaviors occurring in their homes. These people would then have lowered their levels of negative parent-child interactions due to statistical regression. There is at least one reason that this is not likely the case in the current study. The participants herein did not enter treatment immediately upon coming to the attention of social services. There are likely varying degrees of latency between being reported to social services and participating in the training.

Mortality. The effect of mortality occurs when there is an uneven loss of participants in either the treatment or the control group. This unevenness skews the results of the assessments. This is not a concern for the current study due to the same reasons that selection effects are not a concern.

Instrumentation. The threat of instrumentation to internal validity exist when inconsistent measures are used between pre and post assessment. An example of how this could have been a problem is if, instead of using norm-referenced assessment instruments, the experimenter had chosen to use in-home direct observations of parent-child interactions. If this were the case, there could be a problem if different observers were used between pre- and post-intervention observations. Because of the relative unambiguity of the measures used, the effect of instrumentation poses little threat to the current study.

Similar to the threats to internal validity, the absence of a control group in the current study poses several concerns with respect to external validity, or *the degree to which the results can be generalized to other situations*. Martella et al. (1999) list two types of external validity; population validity, which is the extent to which we can generalize across subjects, and ecological validity, which is the extent to which we can

generalize the results of a study to different environmental conditions. Concerns about population validity include: generalization across subjects and interaction of personological variables and treatment effects. Concerns for Ecological validity include eight items: verification of the independent variable, Hawthorne Effect, novelty and disruption effects, experimenter effects, pretest sensitization, posttest sensitization, interaction of time measurement and treatment effects, and measurement of the dependant variable.

Generalization across subjects and Interaction of personological variables.

Because subjects were either court- or self-selected to participate in the parent training that this study was based on, generalization across subjects poses a concern on at least two levels. First, does this study suggest that the benefits of the intervention would apply to members of the population at large or just to individuals who were court- or self-selected? Second, of court- and -self-selected individuals, would this apply to individuals nationwide, or just in the area for which the training occurred? The current study cannot guarantee that individuals from the treatment population are not fundamentally different from individuals in other areas. Similarly, the current study cannot guarantee that the individuals comprising the treatment population did not possess personal characteristics that make them especially receptive or resistant to treatment. It should be noted that covariate analysis of selected interaction effects supports the use of the Nurturing Program (Bavolek & Bavolek, 1988) across many areas demographic variability. That is, benefits seemed to be stable across many areas of diversity. Furthermore, BPT in general has a large body of research supporting its efficacy (see Graziano & Diament, 1992). These factors suggest that the current study has at least some level of population validity.

Verification of the independent variable. The first of the concerns of ecological validity is verification of the independent variable. This becomes an issue if the independent variable was not implemented as described or if implementation cannot be replicated. Because the current study examined a fairly typical PBT scheme, and because the guiding manual, the Nurturing Program, is a published, unrestricted document, verification is believed to be of little concern.

Hawthorne Effect. The Hawthorne Effect is similar to history as a threat to internal validity in that it occurs when something other than the intervention happens between pre- and post-assessment. In the case of the Hawthorne Effect, the thing influencing the outcome is the very act of being monitored. An ideal study that had an alternate-treatment control group may be able to rule out Hawthorne Effects. The current study cannot.

Novelty and disruption effects and Experimenter effects. These limitations to the ability to generalize to benefits of a study to other treatment situations occur when the changes from pre- to post-assessment occur partially due to the novelty of the situation or other characteristics of the person(s) delivering the intervention. Such changes can only be reproduced in situations where similar environmental situations occur in conjunction with the independent variable. In the current study, as well as the majority of traditional controlled experiments, these effects cannot be ruled out without being specifically controlled for.

Pretest sensitization and Posttest sensitization. Effects of pretest sensitization are essentially the effects of the internal threat of testing, as they relate to the ability to generalize to other treatment situations. In such situations, the administration of the

pretest becomes part of what made the intervention effective. As was mentioned above, this cannot be ruled out in the current study. Posttest sensitization occurs when the act of taking the posttest serves to synthesize the information learned during intervention. The posttest then becomes part of what made the intervention effective. Though technically this cannot be ruled out in the current study, this unlikely concern is believed to be absent in the current study because of the nature of the assessments used (i.e. paper and pencil questionnaires).

Interaction of time measurement and treatment effects. The concern of interaction of time measurement and treatment effects is essentially an issue of maintenance. Will the effects if the intervention maintain overtime? Though the current study did not conduct follow up assessments, other similar research does attest to the long-term benefits of BPT in general (Forehand et al., 1983; Manion & Koverola, 1988; Scott, et al., 1984).

Measurement of the dependant variable. This particular concern comes into play when invalid means are employed to measure the effects of the intervention. An example of this for the current study would be making statements about the benefits for child problem behaviors when in fact our measure for that variable was not valid. As stated above, the dependant measures used for the current study have good psychometric properties, indicating that measurement of the dependant variable is of little concern.

In summary, there are several threats and concerns in interpreting the current study, both in terms of certainty that the parent training was the variable that resulted in pre to post score changes, and in terms of generalizing these conclusions outside of the study. When interpreting these issues it is important to consider that the nature of the

intervention described herein is not novel. The literature base for BPT is extensive. Furthermore, despite the limitations of the pretest-posttest one-group quasi-experimental design, it has been used extensively in the literature and is considered a useful venue for applied research (Bryant, et al., 1992; Tebes & Kraemer, 1991).

Another concern is that the primary variable of interest for a program targeting child abuse is actual parent-child interactions. However, just as waitlist controls were disallowed by the afore-mentioned groups, so were videotapes for in-home observations of parents and children. Nonetheless, the Child Behavior Checklist has been found to approximate the quality of relationship and perceived child functioning found in an individual's home (Achenbach, 1978). While the present study showed statistically significant pretest-posttest improvements in Scale 7, Child Aggressive Behaviors, and while improvements in Scale 8 and the Externalizing Behavior Scale were, for many individuals, of clinical significance, the latter two were not of statistical significance. One possible explanation for this is that the CBCL is only appropriate for children years 4 through 18. As mentioned above, mean age of participants' children was 4.4 years. As such, the amount of CBCL data obtainable was limited by nearly half. In addition to this there was potential response set bias noted for some parents. For example, many of the data showed group responses in which multiple items were circled simultaneously, indicating that each item was not read. Since this broke with protocol described to the parents for completion of the forms, those data were eliminated from analysis, resulting in a diminished data set. (This same process was also used for BDI-2s and STAXIs.) After all culling was complete the remaining number of CBCLs left for data analysis was

approximately one-third that of the number of subjects, thus potentially contributing to the low significant F values.

In summary, the significant main and interaction effects of this study suggest that the Bavolek and Bavolek Nurturing Program: For Parents and Children Birth to Five Years (1988) may be effective in reducing parental perception of child aggressive behaviors, especially for men, and parental depression, especially for women. Many other findings that are of clinical importance are also present. Some suggested areas of future research are: (a) to assess the relationship of the training in stress-reduction techniques to attenuate effects of Patterson's coercive cycle, (b) determining what are the most effective ways to induce reduction in anger of mothers, as compared to fathers, and (c) determining the most effective ways of reducing paternal, as opposed to maternal, depression. Lastly, the author feels that this study strongly supports the use of the use of the Nurturing Program as well as Behavioral Parent Training in general, in the reduction of child behavior problems and other areas of parental concern.

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Table 1

Demographic Information¹

		Frequency	Percent ²			Frequency	Percent
Ethnicity	Caucas	85	71.8	Government- or Other- Referred	Gov	67	56.3
	Latino	16	13.9		Other	43	36.6
Ethnicity	Native	5	4.6	Above/Below \$25K annual income	Above	23	19.3
	Other	10	8.4		Below	89	75.3
History of Substance Abuse	History	26	22.3	Gender	Male	50	42.0
	None	73	73.9		Female	69	58.0
History of Counseling	History	73	61.3	Single v. Cohabiting	Single	69	58.4
	None	44	37.4		Cohabit	47	39.9
		<u>M</u>	<u>SD</u>	Maximum	Minimum		
Age	Children	4.37	3.75	17.7	0.0		
	Parents	31.64	9.73	63	18		

Note. Table displaying demographic information for subjects.

¹N = 119.

²Percentages not accounted for represent missing data resulting from incomplete self report forms.

³ “Cohabiting” includes living with significant other. “Single” includes married, but living apart.

Table 2

Analysis of variance for dependant variables

	<u>df</u>	<u>F</u>
CBCL		
Externalizing Behavior Scale	100	3.62
Aggressive Behavior Scale	99	5.14*
Delinquent Behavior Scale	96	1.55
Beck Depression Inventory-2	206	13.75**
STAXI		
State Anger Expression	233	0.75
Trait Anger Expression	214	3.26

Note. Table displaying F values for individual dependant variables.

*p < .05

**p < .01

Table 3

Means of T-scores For Corresponding Scales (Pretest / Posttest)¹

Demographic Item		Externalizing Child Behavior	Aggressive Child Behavior	Delinquent Child Behavior	BDI-2	State Anger	Trait Anger
Caucasian v. Other	Caucas	60/55	62/60	61/57	57/50	54/53	45 ³ /42
	Other	55/50	57/53	59/54	54/46	54/52	40 ³ /37
Latino v. Native American	Latino	53/49	56/53	58/53	52/44	53/51	39/36
	Native	No data	No data	No data	56/40	55/54	48/40
History of Substance Abuse	History	60/56	62/58	58/56	57/47	53/52	44/40
	None	58/53	60/58	60/56	57/50	54/53	44/42
Government- or Other- Referred	Gov	58/51	60/55	60/55	57/49	54/54	42/40
	Other	60/56	62/61	61/57	56/50	53/52	46/43
Above/Below \$25K annual income	Above	58/50	60/54	59/56	53/45	53/51	47/41
	Below	59/55	62/60	61/56	58/51	54/53	43/41
Gender	Male	56/52	60/58*	57/56	51/46*	53/52	44/39
	Female	60/54	61/58*	62/57	61/51*	54/53	43/42
Single v. Married	Single	59/53	61/58	61/56	55/47	53/53	45/41
	Married	58/54	61/59	60/56	60/51	54/53	42/41

Note. Table displaying means of pretest and posttest broken down into dependant and demographic submeans.

¹Means are rounded to nearest whole number.

*ANCOVA $p < .05$