

Two-Session Group Parent Training for Bedtime Noncompliance in Head Start Preschoolers

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ABSTRACT. Bedtime struggles are some of the most common childhood behavior problems. These disruptions are associated with children's daytime misbehavior, impaired social functioning, poorer school performance, and even an increased risk of child abuse. These problems also have a number of negative consequences for members of the child's family. Of the evidence-based treatments for bedtime noncompliance in young children, graduated extinction is the most widely used

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by clinicians. A number of studies have demonstrated its efficacy. The present study is the first to examine the efficacy of graduated extinction with children from ethnic minority or low socioeconomic backgrounds. Additionally, this is one of the first studies to examine the effects of graduated extinction when it is delivered in a group format. In an interrupted time-series design, five parents of children enrolled at a Head Start preschool site participated in one of two groups that received instruction on the use of graduated extinction. According to visual inspection as well as single case and multilevel statistical analyses, parents reported that at posttest their children experienced large reductions in both bedtime and daytime behavior problems. Parents also reported that their own levels of depression and stress declined during this period. At two-month follow-up, gains in the children's bedtime behavior were maintained. Parents also reported high levels of satisfaction with the intervention. These results suggest that graduated extinction for bedtime noncompliance is effective for a wide range of parents and can be successfully administered in a group setting. doi:10.1300/J019v29n03_03 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2007 by The Haworth Press, Inc. All rights reserved.]

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Bedtime noncompliance¹ is one of the most common childhood behavior problems. Studies indicate that approximately 25% of children between ages 1 and 5 years experience sleep problems three or more times per week (Burnham, Goodlin-Jones, Gaylor, & Anders, 2002; Lozoff, Wolf, & Davis, 1985; Mindell, 1993). Sleep disruptions are one of the most frequently reported complaints that parents make to pediatricians about their children (Mindell, Moline, Zendell, Brown, & Fry, 1994).

Bedtime noncompliance usually takes the form of stalling, whining, tantruming when bedtime approaches. As challenging as these behaviors are for parents, they have a number of negative effects on children. For example, they are associated with daytime misbehavior (Kataria, Swanson, & Trevathan, 1987; Owens, Spirito, McGuinn, & Nobile, 2000; Seymour, 1987; Smedje, Broman, & Hetta, 2001; Zuckerman, Stevenson, & Bailey, 1987), daytime sleepiness, impaired social functioning, poorer school achievement, and decreased attention span (Kuhn, Mayfield, & Kuhn, 1999; Mindell, 1993). These behaviors can result in

a child being considered a behavior problem in the classroom by his or her teacher (Mindell, 1993) or even misdiagnosed as having an attention-deficit/hyperactivity disorder (Bergman, 1976). Most concerning, children who experience bedtime struggles appear to be at significantly higher risk for being abused, due, in part, to the strain these problems put on the family. For example, 8% of parents in one study reported abusing their child as a result of his or her sleep difficulties (Chavin & Tinson, 1980).

Bedtime noncompliance has also been demonstrated to have a negative impact on other members of the affected child's family. Parents have reported that their child's sleep problems cause serious arguments between parents, chronic fatigue, curtailment of social life and sexual activities, detrimental effects on siblings, maternal ambivalence toward the child, and even the break-up of their marriage (Chavin & Tinson, 1980; Lozoff, Wolf, & Davis, 1985). Unfortunately, untreated sleep problems typically do not improve over time (Zuckerman et al., 1986). For example, Kataria, Swanson, and Trevathan (1987) found that 84% of children aged 15-48 months who initially presented with sleep problems, had persistence of sleep problems after 3 years. Furthermore, parents report personal and family stress as a result of their children's sleep problems rose over these years.

Owing, in part, to their ease of use, several different medications are commonly administered to children with sleep problems (Rosen, Owens, & Mindell, 2005). However, the literature suggests that pharmacological treatment is, at best, a temporary aid in reducing sleep disruptions. Antihistamines (Besana, Fiocchi, De Bartolomeis, Magno, & Donati, 1984; France, Blampied, & Wilkinson, 1991; France & Hudson, 1993; Richman, 1985), chloral hydrate (American Academy of Pediatrics, Committee on Drugs and Committee on Environmental Health [AAPD], 1993; Biban, Baraldi, Pettenazzo, Filippone, & Zacchello, 1993; Kuhn & Weidinger, 2000; Steinberg, 1993), benzodiazepines (Glick, Schulman, & Turecki, 1971; Kuhn & Weidinger, 2000), and melatonin (Camfield, Gordon, Dooley, & Camfield, 1996; Cassone & Natesan, 1997; Jan & Espezel, 1995; Jan, Espezel, Freeman, & Fast, 1998; Kuhn & Weidinger, 2000; McArthur & Budden, 1998; Sheldon, 1998) have all been studied, with mixed results. Problems with pharmacological interventions range from unwanted side effects to lack of regulation by the U.S. Food and Drug Administration. Given these important limitations, as well as the positive results behavioral interventions in the treatment of childhood bedtime noncompliance are considered the treatment of choice (Ramchandani, Wiggs, Webb, & Stores, 2000).

Several behavioral approaches to treating children's bedtime non-compliance have been empirically evaluated. Unmodified extinction, or "systematic ignoring," involves having the parents establish a designated bedtime and regular bedtime routine, placing the child in bed and not attending to him or her until a set time the next morning (Chadez & Nurius, 1987; France & Hudson, 1990; Rapoff, Christophersen, & Rapoff, 1982; Rickert & Johnson, 1988; Sanders, Bor, & Dadds, 1984; Wright, Woodcock, & Scott, 1970). The underlying operant theory of extinction posits that terminating the reinforcement contingency that maintains a response will result in a reduction in that behavior's occurrence over time (Lerman & Iwata, 1996). In the context of refusal to go to sleep, it is assumed that parental attention often acts as the main reinforcer for continued child noncompliance. Therefore, having the parents remove themselves from the child's presence is thought to lead to the reduction in noncompliance that frequently results from this approach.

One of the major advantages of unmodified extinction is that it often produces rapid results, with the worst of the bedtime crying usually being over within three nights (France, Henderson, & Hudson, 1996). The procedure is easy to understand, so parents are unlikely to be confused about what they are to do. However, parents are sometimes unwilling to tolerate the child's crying (Rickert & Johnson, 1988). Although the procedure is easy to understand, parents who are inconsistent in following it can actually exacerbate their child's problems by reinforcing the undesired behavior on an intermittent schedule (France, Henderson, & Hudson, 1996). Another drawback of unmodified extinction is response bursting, in which the frequency, intensity, and/or duration of behavior actually increase before subsiding (Lawton, France, & Blampied, 1991; Lerman, Iwata, & Wallace, 1999).

Because some parents are unwilling to ignore bedtime crying or tantruming long enough for unmodified extinction to work, graduated extinction can be an alternative behavioral approach. Graduated extinction involves progressively reducing parental attention to inappropriate bedtime behaviors. Typically, parents briefly check in on their child after a few minutes and then leave the room. They then wait for a longer interval before they make a second check. This continues until the child falls asleep. There are a variety of different techniques that fall under the heading of graduated extinction (Adams & Rickert, 1989; Durand & Mindell, 1990; Ferber, 1985; Kuhn & Weidinger, 2000; Lawton, France, & Blampied, 1991; Mindell, 2005; Pritchard & Appleton, 1988; Reid, Walter, & O'Leary, 1999; Rolider & Van Houten, 1984; Sadeh, 1994); they all have in common the goal of systematically reducing

parental attention, allowing the child's inappropriate bedtime behaviors to gradually extinguish while promoting independent sleep onset.

Because some parents find any amount of ignoring a child's crying unacceptable, another treatment, positive bedtime routines, can be employed. This treatment involves initially moving a child's bedtime later into the evening, so that the child is sleepy, while having parents develop a set bedtime routine of activities that are calming and enjoyable to the child, thus teaching him or her appropriate pre-bedtime behavior and sleep onset skills (Adams & Rickert, 1989; Kuhn & Weidinger, 2000; Milan, Mitchell, Berger, & Pierson, 1981; Mindell, 1999; Piazza & Fisher, 1991a,b). Potential disadvantages of the procedure are that parents may be resistant to some of the components of the intervention (e.g., temporarily moving their child's bedtime or having to remain awake with him or her), and that the 3- to 6-week time commitment involved leaves the treatment vulnerable to interruptions such as illness or family travel (Kuhn & Weidinger, 2000).

All three behavioral treatments have been demonstrated to be effective at reducing bedtime noncompliance in young children (Adams & Rickert, 1989; Durand & Mindell, 1990; France & Hudson, 1990; Kuhn & Weidinger, 2000; Lawton, France, & Blampied, 1991; Milan et al., 1981; Mindell, 1999; Piazza & Fisher, 1991a,b; Reid, Walter, & O'Leary, 1999; Rickert & Johnson, 1988; Rolider & Van Houten, 1984; Sadeh, 1994; Sanders, Bor, & Dadds, 1984; Wright, Woodcock, & Scott, 1970). Thus far, the data suggest that no one treatment is significantly superior to the other two. In addition to improving child bedtime behavior, several studies have demonstrated positive effects on non-sleep variables, such as improvement in children's daytime behavior (France & Hudson, 1990; Pritchard & Appleton, 1988), increased child happiness (Pritchard & Appleton, 1988), increases in the number of positive parent-child interactions (Adams & Rickert, 1989; Reid, Walter, & O'Leary, 1999), and decreased parenting stress (Reid, Walter, & O'Leary, 1999). In addition, a number of studies have reported that other family members have experienced improvements on a range of variables. These include improvements in marital satisfaction (Adams & Rickert, 1989; Durand & Mindell, 1990; Mindell & Durand, 1993), parents' sleep, parental anxiety, parental self-efficacy (France & Hudson, 1990), parenting stress (Reid, Walter, & O'Leary, 1999), and maternal depression (Durand & Mindell, 1990; Hiscock & Wake, 2002; Pritchard & Appleton, 1988).

Although substantial research supports the efficacy of these three approaches, several important questions about these treatments remain unanswered. One question pertains to the generalizability of extant re-

search to ethnic minority families. To date, only three studies validating behavioral interventions for children's bedtime problems mention any participation by ethnic minority participants (Adams & Rickert, 1989; Burke, Kuhn, & Peterson, 2004; Milan et al., 1981). The results from these three studies do not allow for any conclusions with respect to the efficacy of behavioral sleep treatments with ethnic minority families. It is possible that ethnic minority families will fare less well with these interventions than have White families. Although research has not conclusively shown why ethnic minority clients fare less well than their White counterparts, several studies have documented this disparity. For example, Organista, Munoz, and Gonzalez (1994) found that when ethnic minority outpatients were treated for depression with cognitive-behavioral therapy, they did experience improvement in their symptoms, but not to the same extent as results reported in the treatment outcome literature, of which the participants were primarily White and middle class. In addition, Friedman and Paradis (1991) found that African American participants' treatment outcome for panic disorder with agoraphobia was poorer than for White participants. This issue has been much discussed with respect to parent-training interventions. The traditional parent-training model has been validated and is based on the values, beliefs, and practices of White, middle-class families (Forehand & Kotchick, 1996). Coard, Wallace, Stevenson, and Brotman (2004) found a high prevalence of culture-specific parenting practices within African American families and suggest that adaptations to content and delivery of parent training may be necessary to "fit the ecological niches, needs, and values of families of color" (p. 290). Forehand and Kotchick (1996) provide a review of the cultural context of parenting for four ethnic groups and suggest that parenting programs that lack an awareness of the values of the particular culture(s) of its members may fail. Before any such adaptations are made to child sleep treatments, it is important to gather evidence on the efficacy of such treatments with nonWhite families.

Behavioral sleep treatments have also not been validated with low-income families. We were unable to find a single study on children's bedtime difficulties that included enough families from a low socioeconomic background to draw conclusions about the treatment response of this population. Thus, a second question pertains to how generalizable findings from previous research are to low-income families. It is essential not to exclude this population because parents in this group, who likely experience more life stressors than middle-class families, might have more difficulty complying with the treatment procedures and require additional support (Reid, Walter, & O'Leary, 1999). In addition, low SES

has been shown to be a strong predictor of worse outcomes in parent training (e.g., Dumas & Wahler, 1983; Holden, Lavigne, & Cameron, 1990), so it is possible that the same results might be found with behavioral sleep interventions. However, a poorer response should not be assumed and must be documented before modifications are made to these interventions.

Obtaining information on how low-income and ethnic minority families fare with behavioral treatment for child sleep problems could have important health implications. If they do as well as higher income, White parents, therapists can feel at ease about using these approaches with these groups. If they do poorly with these approaches, future efforts will need to develop or adapt interventions and test them with lower SES ethnic minority families.

Another question that remains unanswered concerns the issue of group versus individual treatment. Only three sleep studies have used a group treatment approach (Balfour, 1988; Carpenter, 1990; Szyndler & Bell, 1992). Although improvements in sleep problems were noted in all three of these studies, all results were based on mothers' perceptions rather than on more objective data. Additionally, two of the three studies employed ratings that were assessed at only two points in time. The present study employed groups and gathered more structured and frequent data.

Research has evaluated the relative effectiveness of individual and group parent training for general oppositional behavior in children, typically finding group training to be at least as successful as individual training (Brightman, Baker, Clark, & Ambrose, 1982; Pevsner, 1982). Examining whether group treatment of children's bedtime behavior difficulties is effective could be advantageous for the following reasons. First, given how common sleep problems are in children, a treatment that can target large numbers of clients simultaneously would be valuable from an economic and public health perspective. Cunningham, Bremner, and Boyle (1995) found that a large group community-based parent-training program was more than six times as cost-effective as clinic-based individual parent-training programs. Second, there is some evidence that immigrant families and those using English as a second language are more likely to enroll in group community-based parent-training programs than in individual clinic-based programs (Cunningham, Bremner, & Boyle, 1995). This population is often underserved by mental health professionals. Finding evidence for an effective treatment that is accessible to these groups would be an important step. Third, group treatment is likely to provide more social support to parents than individual treatment. This component would seem to be quite important for highly stressed, low-in-

come families (Dumas, 1984; Dumas & Wahler, 1983). In two of the three studies evaluating a group treatment approach for young children's sleep difficulties, mothers' qualitative reports indicated that they felt that meeting other parents with similar problems was one of the most useful aspects of the treatment (Balfour, 1988; Carpenter, 1990).

Because graduated extinction has been shown to produce relatively fast improvements in child bedtime behavior and because it does not force parents to ignore all child protestations, we chose to examine this treatment over the other two in our examination of a group sleep treatment that targets low-income, ethnic minority parents. In addition to examining treatment effects, we thought it is essential to assess treatment satisfaction to learn how parents from these populations viewed such an intervention.

We hypothesized that children whose parents participated in the graduated extinction treatment would demonstrate a reduction in daytime and bedtime behavior problems (e.g., oppositionality, impaired school and/or social functioning during the day, and noncompliance at bedtime) from baseline to posttest, and that parents in the groups would experience improved depression and stress level as compared with their baseline functioning. We also hypothesized that these changes would be maintained at a 2-month follow-up assessment, and that parents would report positive attitudes about the intervention itself. We hypothesized that these changes would be apparent by visual inspection as well as by single case and multilevel statistical analyses. This study is the first to examine sleep treatment data with these types of statistical analyses.

METHOD

Participants

Parents were solicited through parent meetings, distribution of flyers, and collaboration with teachers and supervisors at Head Start centers in Nassau and Queens Counties in New York. Free treatment was offered to parents of 3- to 6-year-old children, attending Head Start preschool in exchange for participation in the project. Pre-assessment procedures followed those outlined by Reid, Walter, and O'Leary (1999), with minor changes. A total of 15 children screened over the telephone met criteria for difficult bedtime or nighttime behavior. To participate, parents had to report that their children had sleep problems on three or more nights in a typical week. Sleep problems were defined as any of the following: (1) needing more than 15 minutes to stay in bed and remain

quiet from the time the child was put to bed, (2) requiring another person to stay in the room with the child in order for the child to stay in bed and remain quiet, (3) waking in the middle of the night and refusing to go back to sleep alone, or (4) sleeping in the bed of someone else who considered that behavior problematic. Of the 15 children who qualified, six parents elected not to participate in the study. Two of these parents stated that they were no longer interested, a third cited a busy schedule, and three parents stopped returning investigators' calls. Of the nine remaining parents, four ultimately had to be excluded from the study. One parent was excluded prior to treatment because her child met criteria for post-traumatic stress disorder (PTSD). Two parents failed to attend the first parent-training workshop, and another mother was excluded from the study because she admitted to a research assistant that she had been fabricating her child's data.

Parents (4 mothers and 1 grandmother) of five children (4 girls and 1 boy) participated in the study. Because of the timing of participant recruitment, two groups were offered, one with 3 families and one with 2 families. Participants were paid \$50.00 for each of three assessment packets completed. The first group comprised two African Americans and one Hispanic participant, aged 30, 39, and 58, respectively. The second group comprised two Hispanic participants, aged 32 and 33. All of the children were 4- or 5-years-old (mean age = 4.98 years). Mothers reported a mean annual household income of \$15,900.

Design and Procedure

Therapists. Therapists for both groups were a Latino male clinical psychology faculty member and a White female fourth-year doctoral student in clinical psychology.

Baseline. Parents completed pretest information packets over the telephone that inquired about demographic information, screened for potential psychiatric disorders in the children (children who met criteria for PTSD or separation anxiety disorder were excluded from the study), and assessed the children's daytime and bedtime functioning, as well as the parents' stress and depression levels. Following completion of these packets, parents were given instructions for keeping a sleep diary for 14 days of baseline. Graduate research assistants who knew these parents were receiving treatment for their child's sleep problems, but who were blind to specific study hypotheses, collected data from these diaries through daily calls to the parents. The diaries included such information as the time the child had awakened that morning, the time the parent began

preparing her child for bed as well as the time she tried to put her child down for the night, the time the child began protesting, the type of behavior exhibited by the child during this time, the length of time until the child was quiet, the number of times the child came out of the bedroom before falling asleep, the time the parent noticed the child was asleep, where the child had slept that night, and the number and length of night wakings. In addition, parents were asked to rate on a scale from 1 to 7 their level of stress during the previous night and how satisfied they were with their child's bedtime and middle-of-the-night behavior.

Intervention. Following the baseline phase, parents met with the therapists for a 2 hour workshop at a local Head Start center. The therapists used parent handouts and therapist scripts created by Reid, Walter, and O'Leary (1999) with slight modifications. Parents were instructed to establish a reasonable time for their child's bedtime and to put their child to bed at this time on a consistent basis. We suggested that the parents have their children engage in quiet activities for 30 minutes before bedtime, after which the child's normal bedtime routine (e.g., bedtime story, prayers) would follow. After the routine was completed, parents were to tell the child goodnight, leave the room, and implement the graduated checking procedure outlined by Ferber (1985). Parents were instructed that on the first night of treatment, if their child cried or protested, after 5 minutes they were to make a brief check lasting no more than 30 seconds and then leave the room. If the child continued to cry, parents were instructed to make brief checks first after 10 minutes, and then at 15-minute intervals thereafter until the child quieted. On each subsequent night of treatment, each checking interval was lengthened by 5 minutes. If the children left their rooms, parents were instructed to use a door-closing procedure (Ferber, 1985; Reid, Walter, & O'Leary, 1999). A child was given one warning each night, and then the parent held the child's door closed for a short interval each time the child came out of the room. These intervals were progressively lengthened (as with the checking procedure) until the child stayed in bed, at which point the door was left open. Parents were also educated about extinction bursting and given strategies for helping them resist giving in to their children's protests. For example, parents were given a handout that read:

My Child is Crying Because He Hasn't Had Practice Falling Asleep By Himself. Every Night, He will Get Better At It, As He Gets More Practice. In The Long Run, Ignoring The Crying Now Will Mean Much Less Crying, and My Child Will be Much Happier.

After parents understood the procedures, they role-played potential scenarios of child noncompliance with the therapists. After the first night of treatment, the graduate student investigator telephoned each parent to review the treatment procedures and offer any additional advice or support that they needed.

Two days following the first workshop, parents met with the therapists again for a 1 hour group in which participants and therapists discussed any questions or difficulties that parents encountered in implementing the treatment with their children. Following the second workshop, research assistants telephoned parents for 28 days to collect treatment data from the sleep diaries. The information collected was identical to that of the baseline phase, with some additions. Parents were asked to rate on a scale from 1 to 7 how well they felt they had followed the treatment procedures. In addition, research assistants asked parents a series of structured questions regarding their compliance to treatment, and each parent was given a compliance score based on her answers. The questions included the number of times the parent had checked on her child, whether any unscheduled checks were made, what the parent did if the child came out of the bedroom, if the parent had used the appropriate amount of time during the door-closing procedure, and if the parent had remained in the bedroom with her child until the child fell asleep. At the end of the 28 days, parents completed posttest information packets with the research assistants via the telephone.

Treatment fidelity. To help ensure treatment fidelity, therapists used treatment manuals, videotaped and watched one of the groups, and independently completed fidelity checklists. The checklists assessed therapists' adherence to predetermined aspects of the group, such as set up of the room, introduction of both therapists and parents, discussion of the rationale of bedtime noncompliance, actual procedures of the didactic part of the group, troubleshooting and role-play sections, and the closing of the group session.

Follow-up. Two months after completion of the posttest information packet, parents completed a 7-day follow-up data collection period identical to that of the intervention phase. Following the 7 days, parents completed the third and final assessment packet.

Measures

Children's emotional disorders. To screen for emotional disorders in the children, parents were asked to complete three scales of the Early Childhood Inventory (ECI-4; Gadow & Sprafkin, 2000): the Post-Traumatic

Stress Disorder Scale, the Generalized Anxiety Scale, and the Separation Anxiety Scale. The ECI-4 is a behavior rating scale that screens for the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV; 1994) emotional and behavioral disorders in children between 3 and 6 years old. ECI-4 scores demonstrate satisfactory test-retest reliability, and show good predictive and concurrent validity (Sprafkin, Volpe, Gadow, Nolan, & Kelly, 2002).

Children's sleep habits. Parents were asked to complete the Children's Sleep Habits Questionnaire (CSHQ; Owens, Spirito, & McGuinn, 2000). The CSHQ is a retrospective, 45-item parent questionnaire that has good test-retest reliability and has displayed content validity in differentiating a normal sample from a clinical sleep-disordered sample (Owens et al., 2000). The CSHQ includes items relating to a number of key sleep domains: bedtime behavior and sleep onset, sleep duration, and morning waking/daytime sleepiness. Parents are asked to recall sleep behaviors occurring over a typical recent week.

Children's daytime behaviors. The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) was administered to the parents to assess child behavior not specific to bedtime. This instrument is designed to measure conduct problems in children and adolescents aged 2-17. Internal consistency is high, with an alpha of .93 and .91 for intensity and problem score, respectively. Scores correlated highly with observational data and were able to distinguish between children who met diagnostic categories and nonclinical children (Burns & Patterson, 1990).

Parental stress. Parents completed the Parenting Stress Index-Short Form (PSI-SF; Abidin, 1990). The PSI-SF is a 36-item measure of parenting stress that yields three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Child Difficulty. We analyzed the total score only. The PSI-SF has adequate reliability and validity (Deater-Deckard & Scarr, 1996).

Parental depression. Parents completed the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report depression index. Coefficient alpha estimates of reliability for the BDI-II with outpatients and a nonclinical sample were .92 and .93, respectively. The test-retest reliability coefficient across the period of a week was .93. Concurrent validity evidence appears solid with the BDI-II demonstrating a moderately high correlation of .71 with the Hamilton Psychiatric Rating Scale for Depression-Revised in psychiatric outpatients.

Treatment compliance. Research assistants gave each parent a nightly compliance score based on a series of structured questions. Parents were given a score of 3, or "Complete Compliance," when they reported

following the treatment procedures without errors. A score of 2, or “Some Noncompliance,” was given when parents reported making 1-3 errors in the treatment procedures, but continued the procedures until their children fell asleep or resettled alone. Parents earned a score of 1, or “Significant Noncompliance,” when parents reported terminating treatment for the night by staying or sleeping with the child. Scores of 3 were earned by parents on over 90% of nights during both the treatment and follow-up phases.

Client satisfaction. Treatment satisfaction was measured by the Therapy Attitude Inventory (TAI; Brestan, Jacobs, Rayfield, & Eyberg, 1999). The TAI is a concise measure of consumer satisfaction that questions parents about their satisfaction with training in the behavioral management of their children. Mothers of children diagnosed with externalizing behavior disorders were used as the normative sample. A Cronbach’s alpha of .91 was reported. The TAI appears to be linked to changes in symptoms that occur during treatment, rather than overall child behavioral problems upon treatment completion (Brestan et al., 1999).

Study Design and Data Analysis

An interrupted time-series design was used in this study, in which many pre-intervention and post-intervention observations are collected, permitting the researcher to separate real intervention effects from other long-term trends, despite the lack of a control group (Cook & Campbell, 1979). Data in this study were interpreted through visual inspection and with Hierarchical Linear Modeling (HLM).

RESULTS

The results are presented in three phases. We begin by presenting a traditional visual description of the data, with reference to changes in the means of the principal measures. Second, we present single-case statistical analysis. Finally, we present multilevel modeling data.

Compliance Scores

Research assistants gave each parent a nightly compliance score based on a series of structured questions. Scores of 3 (complete compliance) were earned on more than 90% of nights during both the treatment and follow-up phases. Participant number one received 5 scores of “Some

Noncompliance” and 2 scores of “Significant Noncompliance” during the treatment phase and 2 scores of “Some Noncompliance” during follow-up. Participants 2-5 each received scores of 3 on over 95% of nights.

Problem Behavior Reduction

The results of the pretest, posttest, and 2-month follow-up assessments for the Children’s Sleep Habits Questionnaire (CSHQ) are presented in Table 1. From pretest to posttest, all five parents reported a decrease in their child’s overall sleep difficulties, with an average decrease in Total Sleep Disturbance Score of 16 points, from 62 ($SD = 12.65$) to 46 ($SD = 4.58$). This decline represents a nearly two standard deviation decrease according to community sample data originally obtained by Owens, Spirito, and McGuinn (2000; community sample $M = 56.2$, $SD = 8.9$; clinical sample $M = 68.4$, $SD = 13.7$). The subscale scores for Bedtime Resistance and Sleep Onset Delay also decreased for all children from pretest to posttest. The intervention directly addressed these two areas. From posttest to follow up, Total CSHQ scores for the group overall continued to decrease slightly ($M = 45.4$, $SD = 3.78$). In all cases, follow-up data were lower than baseline scores.

The nightly individual data that parents reported regarding how long it took from when they put their child to bed and said goodnight until their child remained in the bedroom and was quiet is illustrated in Figure 1. As a group, the overall number of minutes it took the children to become quiet decreased from pretest ($M = 30.69$, $SD = 26.75$) to posttest ($M = 7.33$, $SD = 9.29$). By the 2-month follow-up, the number of minutes it took children to become quiet continued to decrease on average ($M = 6.29$, $SD = 7.11$).

The results of the pretest, posttest, and 2-month follow-up for the other assessments are shown in Table 2. Parents also reported improvement in their children’s overall daytime behavior following the intervention as measured by the Eyberg Child Behavior Inventory (ECBI). The ECBI showed an improvement in scores for all of the five participants from pretest ($M = 133$, $SD = 24.09$) to posttest ($M = 106.8$, $SD = 25.17$). From posttest to follow-up, ECBI scores for the group increased slightly ($M = 108.2$, $SD = 35.58$).

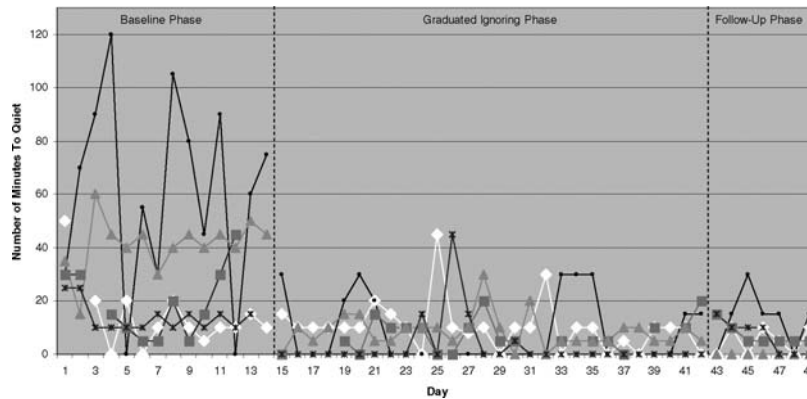
Parental Depression and Stress

Parental depression scores as measured by the Beck Depression Inventory-II (BDI-II) decreased for all five participants from pretest ($M = 10.4$,

TABLE 1. Subjects' Subscale and Total Sleep Disturbance Scores on the Children's Sleep Habits Questionnaire (CSHQ)

Subscale	Subject 1			Subject 2			Subject 3			Subject 4			Subject 5		
	Pre	Post	Follow Up	Pre	Post	Follow Up	Pre	Post	Follow Up	Pre	Post	Follow Up	Pre	Post	Follow Up
Bedtime Resistance	16	7	7	11	8	6	13	9	9	10	6	6	15	6	6
Sleep Onset Delay	3	1	1	3	1	1	3	1	1	3	1	1	3	1	1
Sleep Duration	6	3	3	4	3	3	6	3	4	3	3	3	7	4	4
Sleep Anxiety	11	7	7	4	5	5	9	7	8	10	7	6	11	4	4
Night Wakings	5	3	3	7	3	3	5	4	5	3	3	3	7	3	4
Parasomnias	11	9	8	12	10	10	15	12	10	7	7	9	14	10	9
Sleep Disordered Breathing	4	3	4	5	5	5	5	5	4	3	3	3	7	7	6
Daytime Sleepiness	17	15	17	12	13	12	18	11	12	8	11	11	17	18	16
TOTAL SLEEP DISTURBANCE SCORE	67	45	47	56	46	43	69	49	49	43	39	40	75	51	48

FIGURE 1. Number of Minutes It Took Children to Become Quiet and Remain in Bedroom After Being Put to Bed



Participant 1 = White Diamond, Participant 2 = Black Circle, Participant 3 = Grey Square, Participant 4 = Grey Triangle, Participant 5 = Black Asterisk.

$SD = 12.68$) to posttest ($M = 2.2$, $SD = 2.68$). As a group, BDI-II scores were stable from posttest to follow up ($M = 2.6$, $SD = 3.21$). Figure 2 illustrates nightly parent ratings of stress level with regard to their children's bedtimes. As a group, stress ratings decreased from pretest ($M = 3.33$, $SD = 1.24$) to posttest ($M = 1.37$, $SD = .89$). Overall Total Stress scores of the group on the Parenting Stress Index-Short Form (PSI-SF) decreased from pretest ($M = 73.6$, $SD = 15.93$) to posttest ($M = 62.6$, $SD = 18.34$). Overall Total Stress Scores for the group on the PSI-SF were stable from posttest to follow-up ($M = 63.4$, $SD = 12.44$). As a group, subjective bedtime stress also increased slightly from posttest to follow-up ($M = 1.69$, $SD = .99$).

Attitude Toward Intervention

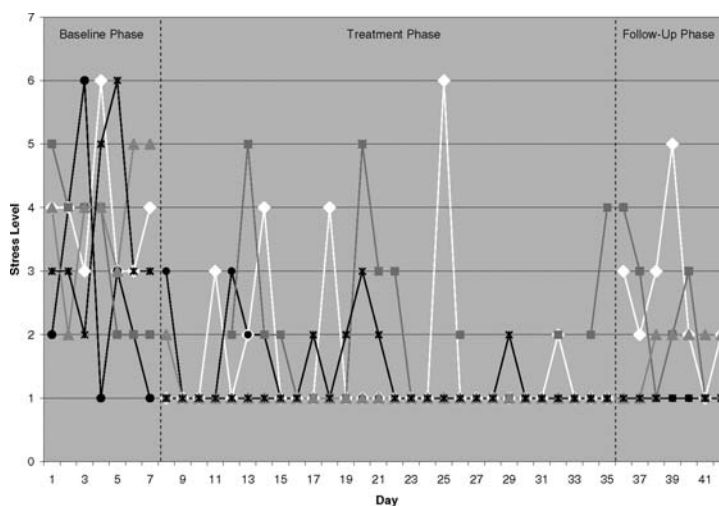
The improved maternal levels of satisfaction with their children's bedtime behavior from baseline through intervention are illustrated in Figure 3. Much of these gains were maintained at follow-up. Scores show that according to the Therapy Attitude Inventory (TAI) at posttest, all five parents viewed the parent-training intervention very favorably, with an average score of 46.5 out of a possible 50 ($SD = 3.87$).

TABLE 2. Participants' Pretest, Posttest, & Follow-up Scores on Major Measures

Instrument	Participant 1		Participant 2		Participant 3		Participant 4		Participant 5						
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post					
Eyberg Child Behavior Inventory	112	111	90	113	68	100	157	136	154	122	118	133	161	100	64
Beck Depression Inventory	1	0	1	5	1	0	14	6	8	1	0	1	31	4	3
Parenting Stress Index-Short Form	87	83	72	69	42	43	79	53	60	48	54	70	85	81	72
Therapy Attitude Inventory (TAI)	49.5	50	50	41	41	43	44	46	50	48	48	48	48	48	50

Note: The maximum score attainable on the TAI is 50.

FIGURE 2. Nightly Parent Stress Level from 1-7, with Higher Numbers Indicating Higher Stress Levels



Participant 1 = White Diamond, Participant 2 = Black Circle, Participant 3 = Grey Square, Participant 4 = Grey Triangle, Participant 5 = Black Asterisk.

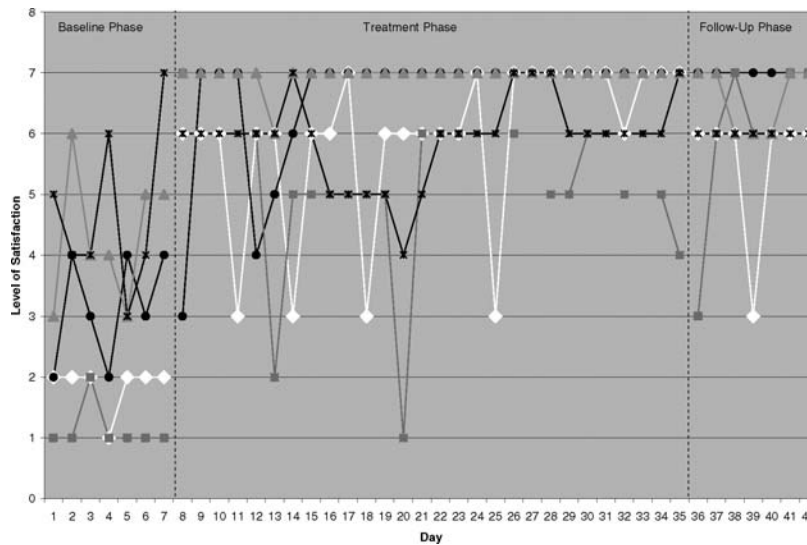
At follow-up, TAI scores remained high, with a mean score of 47.4 ($SD = 2.97$).

Statistical Analyses

To subject these data to more detailed analyses, we analyzed the three variables for which we collected daily data: (1) Minutes it took for child to become quiet, (2) Parental stress, and (3) Parental satisfaction with child's bedtime both within each participant using single case analyses (Franklin, Allison, & Gorman, 1997) and across all participants using multilevel modeling (Bryk & Raudenbush, 1992; Heo, Faith, Mott, Gorman, Redden, & Allison, 2003).

Analyses of interrupted time series allow researchers to assess the levels (means) and the slopes of changes of behavior within each treatment phase as well as phase-to-phase changes (i.e., improvement from the baseline phase to the treatment phase). The statistical model chosen for this purpose was a piecewise regression model (Gorman & Allison, 1997; McGee & Carleton, 1970). In piecewise regression, one can partition a

FIGURE 3. Nightly Parent Satisfaction with Bedtime from 1-7, with Higher Numbers Indicating More Satisfaction



Participant 1 = White Diamond, Participant 2 = Black Circle, Participant 3 = Grey Square, Participant 4 = Grey Triangle, Participant 5 = Black Asterick

time series into separate phases and can then assess the intercepts and slopes within each phase (“piece”). After fitting such models, contrasts of phase-to-phase intercept differences provide evidence for shifts in levels. Phase-to-phase slope differences provide evidence for shifts in trends. The model can be expressed as follows:

$$\begin{aligned}
 \text{Dependent Variable} = & b_1 * (\text{Baseline Intercept Code}) \\
 & + b_2 * (\text{Treatment Intercept Code}) \\
 & + b_3 * (\text{Follow-Up Intercept Code}) \\
 & + b_4 * (\text{Baseline Slope Code}) \\
 & + b_5 * (\text{Treatment Slope Code}) \\
 & + b_6 * (\text{Follow-Up Slope Code}).
 \end{aligned}$$

Intercept codes were formed by creating three dummy variables; coded with the values 1 or 0, to represent the phases (baseline, treatment, or follow-up) in which the measure was obtained. The intercepts are the predicted means for each phase. Slope codes represent the number of

days since a phase began (as described in UCLA's Statistical Computing Group's Web article; <http://www.ats.ucla.edu/stat/stata/faq/piecewise.htm>). Thus, for baseline data, the first day of baseline is coded as zero, the second day as 1, and so forth. The regression coefficients b_1 , b_2 , and b_3 represented the intercepts or levels of the variables within each phase while the coefficients b_4 , b_5 , and b_6 represent the slopes within the baseline, treatment, or follow-up phases. It should be noted that this model did not have an overall intercept, as there were separate intercept terms for each phase.

Analyses were performed to test whether the slope and intercept coefficients within each phase were significantly different from zero. To assess change, comparisons of baseline to treatment, baseline to follow-up, and treatment to follow-up intercept and slope coefficients were then conducted for each person and for the whole group using STATA's *lincom* (Linear Combination of Estimators; Stata Corp, 2005) procedure.

Single Case Analyses

The slopes and intercepts for each participant for each of the three variables that were collected daily are presented in Table 3: (1) minutes to quiet (2) stress, and (3) satisfaction. As can be seen in Table 3, except for Participant 1, all baseline intercepts were significantly different from zero, indicating that Participants 2-5 were not becoming quiet quickly. Treatment intercepts were lower than baseline intercepts for all participants except for Participant 1, demonstrating improvement. In fact, during the treatment phase, intercepts were not significantly different from zero for Participants 3 and 5, suggesting that participants were taking very little time to quiet down. With the exception of Participant 5, follow-up intercepts were not significantly different from zero, again indicating very little time required to calm down. In general, slopes within each phase were not significantly different from zero, indicating that changes were relatively abrupt.

Baseline to treatment intercept changes were significant at the .05 level or less for Participants 2, 3, and 4, thus indicating statistically significant reductions in the time needed to quiet the child. Treatment to follow-up intercept changes were statistically significant at the .05 level for Participants 1 and 4, indicating further improvements from treatment to follow-up. Except for Participant 5, other participants either maintained their improvement in the follow-up phase or improved further.

With respect to parental stress, except for Participant 3, all baseline intercepts were significantly different from zero indicating appreciable

TABLE 3. Each Participant's Baseline, Treatment, and Follow-up Intercepts and Slope

Measure	Phase	Participant 1		Participant 2		Participant 3		Participant 4		Participant 5	
		Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope
Minutes Until Quiet	Baseline	3.29	-1.65*	52.5***	-1.01	22.31***	0.45	46.34***	0.80	9.81*	-0.58
	Treatment	14.22***	-0.28	17.45*	-0.52	4.25	0.21	14.21***	-0.33	4.41	-0.11
	Follow-up	-2.64	0.82	10.48	0.52	1.21	-1.63	-4.78	0.33	13.15*	-2.57
Parent Stress Level	Baseline	3.33**	-0.14*	2.2**	-0.23	1.4	-0.60*	3.08***	-0.05	3.19*	-0.02
	Treatment	2.1***	-0.04	1.61***	-0.03	2.01***	0.0	1.39***	-0.02	1.23***	-0.08
	Follow-up	2.1*	-0.18	0.22	0.03	1.23	-0.4	0.38	0.2	0.82	0.0
Parent Satisfaction with Bedtime	Baseline	1.73	-0.03*	3.4***	0.11	1.06***	-0.03	2.77***	-0.13	1.34*	-0.31***
	Treatment	4.53***	0.09***	5.55***	0.07***	4.28	0.04	6.37***	0.03	5.56***	0.02
	Follow-up	-1.63	-0.09	-0.61	-0.07	-0.78	0.43	-0.74	-0.03	-0.26	-0.02

Note: * < .05, ** < .01, *** < .001.

parental stress. Treatment intercepts were all lower than baseline intercepts, but still significantly different from zero. With the exception of Participant 1, follow-up intercepts were not significantly different from zero, indicating very low levels of stress. As in the previous analyses of quieting time, all slopes within treatment and follow-up phases were not significantly different from zero, indicating sudden and stable change.

Analyses for levels of parental satisfaction with their child's bedtime behavior demonstrated a similar pattern. Baseline to treatment intercept changes were significant at the .05 level for Participants 4 and 5 and indicated improvements in parental satisfaction. Although not statistically significant, Participants 1 and 2 reported improvements. Treatment to follow-up intercept changes were statistically significant for Participants 2, 4, and 5, indicating further improvements in satisfaction in the follow-up phase. Except for slight differences in baseline to treatment slopes for Participants 2 and 4, there were no phase-to-phase slope differences, indicating that changes were mainly in the levels of satisfaction and not in any trend components. Analyses of intercept changes from baseline to follow-up were statistically significant at the .05 level or less for all participants. Except for slope changes to lower slopes from treatment to follow-up for Participants 4 and 5, there were no statistically significant phase-to-phase slope changes, indicating that the basic pattern of change consisted of relatively abrupt improvements in level of response.

Multilevel Analyses

To combine the results across all children while also allowing for variability and clustering within each child's data, we employed multilevel analyses, also known as *Hierarchical Linear Modeling*, *Mixed Modeling*, and *Random Effects Modeling* procedures (Bryk & Raudenbush, 1992; Heo et al., 2003). In multilevel modeling, the first or (fixed-effect) level is the general level for all participants. The higher levels account for random variance attributable to groups such as classroom, school, cohorts, or repeated measures within individuals in which observations may be clustered (see Heo et al., 2003). In our case, the level-2 units are individual participants as we expect somewhat different intercepts and slopes within each child.

To conduct multilevel analyses, we employed STATA's Generalized Linear Latent and Mixed Models (GLLAMM) program (Rabe-Hesketh & Skrondal, 2005; Skrondal & Rabe-Hesketh, 2004). The level-1 model was the same piecewise regression model employed in the previous single case analyses and the level-2 units were the participants. Table 4

presents the multilevel analysis of the number of minutes needed to quiet the child during each phase. As can be seen in this table, the intercepts at baseline and treatment phases were significantly different from 0 minutes, while the intercept at follow-up was essentially zero. The *t*-tests of intercept coefficient differences indicated significant shifts from the baseline to the treatment phase (*t* for intercept = 3.15, *t* for slope = .42) that were maintained through follow-up (*t* for intercept = 1.34, *t* for slope = .17). The slopes were not different from zero and did not differ from phase to phase. The variance at level 2 (30.86) divided by its standard error (15.86) is 1.95, indicating a modest amount of differences among participants.

With respect to parental stress levels, all intercepts within each phase were significantly different from zero. The differences among the coefficients are different from phase to phase, from baseline to treatment (*t* for intercept = 4.45, *t* for slope = 1.57) and from baseline to follow-up (*t* for intercept = 5.57, *t* for slope = .17), indicating a steady decrease in stress levels. The slopes, however, are generally not significantly different from a flat line and they do not shift from phase-to-phase. The level-2 variance (.42) was substantially larger than its standard error (.16; *Z* = 2.63), indicating moderate variability among participants.

The level-2 variance (.55) is substantially larger than its standard error (.13; *Z* = 4.23), indicating substantial differences among participants. As in the previous multilevel analyses of parental stress, the present analysis of parental satisfaction shows that all intercepts are significantly different from zero within each phase. The differences among the intercept coefficients were also significantly different from phase to phase, indicating a steady decrease in stress levels. Following a significant downward slope in satisfaction during baseline, the slopes are not significantly different from a flat line and they did not shift from phase to phase.

DISCUSSION

A two-session graduated extinction treatment, taught in a small group parent-training format, rapidly improved the bedtime *and* daytime behavior of young, low-income, ethnic minority children. Other positive secondary effects included the reduction of their parents' stress and depression levels. Although this study examined a very small group of parents and we cannot say whether we would obtain the same benefits with larger groups, the magnitude of these secondary effects, on areas

TABLE 4. Multilevel Piecewise Regression Analysis of Number of Minutes for Child to Become Quiet, Parent Stress Level, and Parent Satisfaction

Variable		Baseline	Standard Error	Z	p	Treatment	Standard Error	Z	p	Follow-up	Standard Error	Z	p
Minutes Until Quiet	Slope	-0.47	0.52	-0.90	0.37	-0.24	0.16	-1.52	0.13	-0.47	1.29	-0.37	0.71
		minutes per day				minutes per day				minutes per day			
Parent Stress Level	Intercept	26.86	4.37	6.14	< 0.001	11.51	2.98	3.86	< 0.001	4.11	5.34	0.77	0.44
	Slope	-0.08	0.04	-2.07	0.04	-0.02	0.01	-1.89	0.06	-0.07	0.08	-0.86	0.39
Parent Satisfaction with Bedtime	Intercept	3.11	0.26	11.93	< 0.001	1.75	0.16	11.12	< 0.001	0.79	0.33	2.41	0.02
	Slope	-0.23	0.04	-5.21	< 0.001	0.05	0.01	4.97	< 0.001	0.04	0.09	0.46	0.65
	Intercept	1.85	0.29	6.34	< 0.001	5.50	0.18	31.42	< 0.001	-0.84	0.36	-2.32	0.02

that were never addressed during treatment, is nonetheless surprisingly large. For example, the mean improvement on the ECBI of 25 points from pretest to follow-up is roughly equal to the improvement on the same measure seen after a six-session, abbreviated version of Parent-Child Interaction Therapy, which presumably focused almost exclusively on daytime behavior problems (Nixon, Sweeney, Erickson, & Touyz, 2003). At 2-month follow-up, gains in the children's bedtime behavior were maintained. In general, parents reported that improvements in their children's daytime behavior as well as their own depression and stress levels remained improved from baseline, although there was some regression toward baseline levels.

The finding that a graduated extinction procedure is effective in reducing young children's problematic bedtime behaviors is in keeping with previous studies. However, this study is, to our knowledge, the first effort demonstrating such improvements with a low-income, ethnic minority sample. Previous research had demonstrated the effectiveness of graduated extinction, but with middle-class White families. One goal of the present study was to shed light on the issue of whether the content of the intervention would need to be changed for low-income ethnic minority families. The intervention in the present study remained almost identical to what has been used in previous studies with more affluent families, suggesting that major changes are not required for low-income minority families. Only two aspects of the intervention that related in any way to ethnicity or socioeconomic status were changed. First, we added a short discussion of what to do when the child who is undergoing graduated extinction shares a bedroom with other family members, as is a more common practice in lower-income households. Second, we added a short discussion about the difficulties of undertaking sleep training for single parents.

This study is also the first demonstrating bedtime improvements achieved by using a small group parent-training intervention with multiple observations over time. Previous research has used either individual therapy or group intervention with only a pretest and posttest assessment to address bedtime noncompliance. Importantly, parents reported very high levels of satisfaction with this treatment, suggesting that clinicians can feel comfortable employing a graduated extinction procedure for bedtime noncompliance issues with parents. The fact that parents in this study expressed very positive attitudes toward the intervention that included a group format suggests that cost-effective programs could be developed that provide parent training to many more interested parents at once than could individual intervention, at the same time adding a

social support component that is also lacking in the latter. Given the high incidence of bedtime noncompliance, the possibility of treating more families at a lower cost is a promising development. It should be noted that while the parents who participated in the study were satisfied with the treatment, a number of parents declined to participate, suggesting that extinction for bedtime noncompliance remains a difficult route for parents to consider.

The benefits reported by parents were achieved with a very brief treatment. The intervention was explained to parents during one 2 hour workshop, and parents returned for a follow-up 1 hour workshop 2 days later. After the first night of treatment, the clinician telephoned each parent to review the treatment procedures and offer any additional advice or support that they needed. Thus, if one divides therapist time by the number of mothers, between two and three therapist contact hours were required per participant. Compared with various other mental health treatments, parents are likely to find the savings in both time and money achieved with this treatment quite favorable.

Although the results appear promising, several factors may have inflated the magnitude of our findings. First, even though they were scripted and brief, the daily data collection calls by research assistants likely increased parental motivation to keep up with the treatment, while also providing social support to the parents. These calls are not typically made in clinical practice and they could limit the external validity of the results. The fact that changes were not observed during the baseline period, when calls were being made, combined with the finding that most parents experienced large improvements in bedtime behavior within a matter of days, suggests that the calls were not completely responsible for the improvements. In addition, calls were not made for a period of 8 weeks before the follow-up assessments, and most of the improvements were maintained.

Second, that the improvements in children's daytime behavior and parental depression and stress level were found at follow-up to have slightly declined suggests that a "honeymoon effect" might have taken place during the beginning phase of treatment. Perhaps parents' initial satisfaction with easier management of their children at bedtime carried over into parental perceptions of their children's daytime behavior and their own feelings of depression. Because there were no objective measures for daytime behavior, parental depression, and parental stress as there was for bedtime behavior (e.g., number of minutes until the child fell asleep), these findings should be interpreted with more caution. There are, however, a number of parent-training research studies demonstrating

improvements in secondary variables, such as parental depression (e.g., Hiscock & Wake, 2002; Kazdin & Wassell, 2000; Patterson, DeGarmo, & Forgatch, 2004) and parental stress (e.g., Kazdin & Wassell, 2000; Reid, Walter, & O'Leary, 1999), suggesting that these results may be more than an artifact.

Third, the small number of participants poses a threat to external validity. Although, this study's results suggest that an intervention that has proven successful for White, middle-class parents is also beneficial for ethnic minority, low-income parents, those parents who participated in this study may not be representative of the populations from which they come. There exists the possibility that the parents who participated in the study are different from those parents who dropped out of the study or chose not to participate at all, and if more parents from these populations had been sampled, perhaps different outcomes would have been observed. However, the fact that these data were subjected to rigorous statistical analyses that indicate statistical significance for many of the comparisons suggests that the small number of participants nonetheless were a large enough sample to carefully examine these relationships.

A fourth limitation is that all of the data collected were from self-report inventories or sleep diaries on which the parents recorded information, subjecting all of the data to participant bias. The current study attempted to reduce the subjectivity of participants by nightly monitoring of parental compliance. Overall, compliance scores were high for each parent. One possible strategy for future studies would be to videotape the parents and children at bedtime and for multiple investigators to code the tapes for items such as parental compliance to treatment, and actual number of minutes until the child is observed to be quiet.

Finally, participants were paid \$150 each to complete assessment materials over the course of the study. Although the size of these payments was in line with what has been paid in previous studies, it is very likely that the payments increased parent motivation. Results may have been weaker without the payments.

One area on which future researchers might concentrate is in better understanding what types of treatments are most attractive to parents whose children are having sleep problems. Although our data and the data of others suggest that graduated extinction is effective, there is little data on whether parents find treatments based on extinction acceptable. An effective treatment that no one wants to use may not be very useful at all. Future studies should also replicate the current study with larger groups of participants, randomized to a treatment and a control group, in order to reach firmer causal conclusions. Although the current study did not

employ random assignment to treatment and control groups, we did conduct the two groups months apart and collected multiple pre-intervention and post-intervention observations. The fact that improvements were large and remarkably similar in both groups suggests that alternative explanations for the observed changes are unlikely. Finally, long-term studies that follow the participants past the 2-month post-intervention mark need to be undertaken to determine if the decrease in children's bedtime behavior problems are maintained, and whether the improvements in children's daytime behavior as well as parental depression and stress levels stabilize or continue to decline over time.

This study demonstrates that graduated extinction as a technique to improve children's bedtime noncompliance is successful with children from ethnic minority and low-income backgrounds, but there remain unanswered questions. The lack of research in this area is disconcerting, and future researchers would do well to further evaluate interventions for this common and disruptive problem, and to investigate the needs and concerns of parents from these often-neglected populations.

NOTE

1. The terms bedtime noncompliance, bedtime struggles, and bedtime refusal are used interchangeably in this article. The diagnostic classification that best describes the sleep issues described in this article is Behavioral Insomnia of Childhood, Limit-setting Type (2005 revision of the International Classification of Sleep Disorders; American Academy of Sleep Medicine).

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