Filmed Versus Live Delivery of Full-Spectrum Home Training for Primary Enuresis: Presenting the Information Is Not Enough

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To extend availability of a behavioral treatment package for enuresis, two outcome studies compared the effectiveness of live versus videotape delivery. In Study 1, 40 primary enuretics were randomly assigned to live or film delivery. Outcome was superior for the live delivery. Overall, pretreatment measures of family and child psychosocial adjustment failed to predict treatment response. The results were replicated with 18 children, and an impact assessment suggested that film delivery resulted in higher confidence of children in their parents but lower confidence of parents in their children. Delivery of treatments by videotape may provide a way to identify nonspecific factors in psychological interventions.

Over two decades of outcome research have shown that behavioral treatments for primary nocturnal enuresis are superior to alternative psychological and medical treatments (Houts & Liebert, 1984). Yet these most effective treatments are still not the ones that are typically delivered to families. One factor that militates against their delivery is cost. Therefore, researchers have examined the efficacy of delivering behavioral packages with minimal professional involvement (Azrin, Theines-Hontos, & Besalel-Azrin, 1979; Bollard, Nettelbeck, & Roxbee, 1982; Houts, Liebert, & Padawer, 1983).

Full-spectrum home training for primary enuresis is a manual-guided behavioral treatment package designed to be delivered in a 1-hr professional consultation to groups of up to 10 families and to then be implemented by parents at home. Treatment includes bell-and-pad training, cleanliness training, retention control training, and overlearning. A previous evaluation of this treatment showed it to be as effective as other less cost-efficient approaches (Houts et al., 1983; Houts & Liebert, 1984). To explore further cost reduction, this outcome study (Study 1) and its partial replication (Study 2) evaluated the efficacy of delivering full-spectrum home training through a didactic videotape.

Study 1

Method

A Delivery Mode (live vs. film) X Waiting Condition (wait vs. no wait) (2 X 2) factorial design was used. Forty primary enuretics, ranging in age from 5 to 15 years (M = 8.8 years), were randomly assigned to one of two treatment groups, and half of the subjects received treatment immediately or waited 16 weeks and recorded weekly baseline wetting before receiving treatment. Subjects were recruited through media announcements and through referrals from local pediatricians. All subjects had a lifelong history of enuresis (none had attained 2 months or more of consecutive dry nights) and met the following screening criteria: (a) no current medical problems and (b) no daytime wetting accidents. Except for gender distribution differences in which the live groups contained more girls than the film groups, the four groups did not differ reliably on demographic variables such as age, socioeconomic status, medical history, and family history of enuresis. Parents completed a telephone interview and provided a history of the child's enuresis. The 20 families assigned to the waiting period were instructed to keep nightly records of their child's wetting, and the remaining families received treatment within 2 weeks. Informed consent was obtained, and parents paid a materials cost of $50 plus a $15 refundable deposit. Parents completed the Behavior Problem Checklist (BPC); (Quay, 1977); the Family Environment Scale (FES); (Moos & Moos, 1981); and the Tolerance for Enuresis Scale (Morgan & Young, 1975). Children aged 8 years and above completed the Piers-Harris Self-Concept Scale (P-H; Piers, 1969). With the exception of the Tolerance for Enuresis Scale, these measures were readministered at a posttreatment interview and were used as indicators of change in the child's and family's psychosocial adjustment. At the posttreatment interview, parents also completed a consumer satisfaction (5-point Likert) scale on which they rated (a) their global satisfaction with the treatment; (b) the extent to which implementing the treatment was a disruption to normal family life; (c) their difficulty of implementing components (e.g., waking the child, using the alarm); (d) their perceptions of the child's cooperation with procedures (e.g., remaking the bed, washing the face); and (e) their perception of change in the child's self-confidence.

In both delivery modes, families received the complete full-spectrum...
home training package as described in Houts, Peterson, and Whelan (1986). Families in the live groups attended a 1-hr didactic training ses-
sion in which the first author demonstrated and modeled each component of the treatment while parents and children completed the behavior-
ial contract. Families assigned to the film groups attended a 1-hr training
session during which they viewed a didactic videotape in which the first
author demonstrated and modeled the treatment components and the family completed the contract. The videotape contained informa-
tion and instructions identical to those presented in the live demonstra-
tion. Following the formal presentation in both delivery modes, the trainer answered questions about treatment procedures, and clinical psychology graduate assistants telephoned families biweekly to insure
that accurate records were kept and to answer any implementation
questions.

In addition to average bedwettings per week, treatment groups were
compared for success, failure, dropout, and relapse. To be termed a suc-
cess, the child had to reach a criterion of 28 consecutive dry nights
(including 14 in overlearning) and remain dry up to the time of the posttreatment interview. Children who failed to reach criterion within 16 weeks were termed failures, and those who terminated treatment before 16 weeks were termed dropouts. At 3-month, 6-month, and 1-
year follow-ups, relapse was defined as resumption of bedwetting with
a frequency of at least 1 night in each of 2 consecutive weeks. All chil-
dren who relapsed before the 1-year follow-up were offered retreatment.

Results and Discussion

No spontaneous remissions occurred among wait-list controls. As shown in Figure 1 during baseline, repeated-measures analysis of variance (ANOVA) showed a stable tendency for the live group to wet more than the film group ($p < .10$). Therefore, in subsequent analyses pretreatment wetting frequency was en-
tered as a covariate. Parent reports of pretreatment wetting frequency was used because, for wait-list control subjects, these were significantly correlated with actual records of wetting, $r(18) = .90, p < .01$, and only these reports were available for the no-wait groups.

Figure 1 also shows response to treatment over 16 weeks. Only the first 6 weeks of treatment were included in the analysis of average wet nights per week because an increasing number of families in the film groups either dropped out of treatment or provided incomplete information by Week 7. A Delivery Mode (live vs. film) × Waiting Condition (wait vs. no wait) × Problem Severity (average wets in Weeks 1 and 2, 3 and 4, 5 and 6) (2 × 2 × 3) repeated-measures multivariate analysis of variance (MANOVA) with parent-reported average pretreatment wetting frequency as a covariate yielded a significant covariate ($\beta = .39$), and treatment effects were evaluated against adjusted means. The two- and three-way interactions were not signifi-
cant, nor was the main effect for waiting condition. However, there was a reliable between-groups difference for delivery mode, $F(1, 31) = 4.56, p < .05$. During the first 6 weeks of treat-
ment, the live groups wet significantly less than the film groups
(adjusted means = 4.69 and 6.68, respectively). Moreover, these differences were not attributable to gender differences as average wetting frequency did not reliably differ between boys and girls. Finally, there was a main effect for the repeated measure of weeks in treatment, $F(1, 32) = 33.58, p < .001$. As was the case for average wettings, outcome in terms of success, failure, dropout, and relapse status did not differ by waiting condition, so Table 1 shows outcome and follow-up by delivery mode only. At the end of treatment, the live groups showed more initial successes than failures, $\chi^2(1, N = 32) = 8.13, p < .005$, and had fewer dropouts, $\chi^2(1, N = 40) = 5.63, p < .02$, than the film groups. Results were also analyzed for boys only. Again, the live groups were reliably superior to the film groups in success versus failure, $\chi^2(1, N = 23) = 3.88, p < .05$. Relapse at 1-year follow-up was slightly higher for the film (50%) than the live (20%) groups. Treatment of relapsers during the follow-up period was more successful in the live (60%) than in the film (0%) groups.

A series of delivery modes (live vs. film) × Waiting condition (wait vs. no wait) (2 × 2) ANOVA's on posttreatment scores for the P–H and the 10 FES and 4 BPC subscales utilizing pretreatment scores as covariates failed to show any reliable between-
groups differences in child and family adjustment. Also, none of the pretreatment assessments reliably predicted treatment response. This continues to be a problem in this literature, and one reason for the failure to achieve some predictive power with measures like the BPC and FES may be that enuretic children and their families typically score in the normal range on these instruments. Such measures may be subject to floor and ceiling
effects when administered to this population.

Overall, parents' posttreatment ratings on the consumer satis-
fection items differed as a function of outcome rather than
delivery mode. Because comparisons were made for five items, a family-wise error rate of .05 was adopted. Parents' global satis-
faction with the treatment differed as a function of whether or not
their child achieved the goal of a dry bed, $F(1, 27) = 31.90, p < .001$. Similarly, compared with parents of children who
reached the goal of a dry bed, parents of children who failed to do so reported more overall disruption to family life, $F(1, 25) = 8.78, p < .01$, and more difficulty in waking the child, $F(1, 25) = 8.75, p < .01$. These same parents also reported that their children cooperated less with the requirement for children
to wash their face when awakened, $F(1, 24) = 8.57, p < .01$. Inasmuch as the latter two are essential ingredients of treat-
ments based on the urine alarm, they cannot be eliminated,
but it may be possible to provide additional supervision and
therapeutic support specifically to increase compliance with
these components.

The 75% initial success rate for the live delivery mode in this study replicates two previous evaluations of this treatment package (Houts, et al., 1983, 1986), and the 27% relapse rate within this group again supports the efficacy of the full treat-
ment package in reducing relapse as compared with the average relapse rate of 41% (Doleys, 1977) for simple bell-and-pad training. The patent superiority of live over film delivery raises questions about the efficacy of delivering this treatment via a didactic film, and Study 2 was conducted to explore plausible reasons for the obtained outcome differences.

Study 2

The primary purpose of Study 2 was to compare the initial impact of the two delivery modes, and a secondary goal was
to provide a partial replication of the treatment outcomes of
Study 1.
Figure 1. Mean wet nights per week during baseline and treatment as a function of delivery mode and waiting condition.

Method

Twenty-four primary enuretics from the same referral sources described previously were randomly assigned to either live or film treatment conditions like those in Study 1. Five subjects in the live condition and 1 in the film condition did not attend the initial training session. This sample (N = 18) was comparable to the sample in Study 1 in age, enuresis history, and other demographic characteristics.

With two exceptions, procedures identical to those described in Study 1 were followed. First, immediately after the training session parents and children completed measures assessing the initial impact and information-conveying properties of the two delivery modes. For this purpose, parents and children rated (on 5-point Likert scales) their (a) motivation for carrying out the treatment; (b) enthusiasm for implementing the procedures; (c) expectancies for success; (d) estimate of difficulty in implementing the training; (e) confidence in themselves; (f) confidence
Table 1

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<th>Treatment Outcome and Follow-Up for Primary Enuresis Receiving Live Versus Film Delivery of Full-Spectrum Home Training in Study 1</th>
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Note. Percent relapse is number relapsing divided by number achieving initial arrest.

in their child or parents; and (g) degree of personal involvement in the training session. Families also answered 15 true-and-false factual questions about treatment procedures. The second change in procedure concerned only the live delivery group. After viewing the demonstration and completing the measures, this group was given an explanation and written instructions for implementing the nightly waking schedule of dry-bed training. The addition of this component to the live delivery group was part of another investigation to explore the efficacy of adding nightly waking to full-spectrum home training as a means for reducing the time to reach dryness criterion as reported by Bollard and Nettelbeck (1982).

Results and Discussion

As assessed by total number of correct answers on the 15 information questions, parents' knowledge of the treatment procedures did not reliably differ between the live ($M = 12.92$, $SD = 1.32$) and film ($M = 13.60$, $SD = 1.18$) groups. The two delivery methods were equally effective at conveying information about treatment procedures. Responses to the 7 impact questions were analyzed using separate Person (mother vs. father vs. child) x Delivery Mode (live vs. film) (3 x 2) repeated-measures ANOVAs with a family-wise error rate of .05. This analysis yielded a highly significant interaction between respondent and treatment for the item assessing parents' confidence in their child and children's confidence in their parents, $F(2, 12) = 8.93$, $p < .004$. Children in the film group had more confidence in their parents' ability to carry out the training procedures, $t(16) = 3.37$, $p < .004$, but mothers in the film group tended to be less confident in their child's ability to carry out the treatment than mothers in the live group, $t(15) = 2.28$, $p < .04$.

Treatment outcome from Study 2 was similar to that obtained in Study 1. The live group was superior to the film group in success, 5 (71%) subjects versus 4 (36%) subjects, and failure, 1 (14%) subject versus 6 (55%) subjects, but due to the relatively, small sample sizes, these differences did not prove statistically reliable.

The outcome data from Study 2 provide some corroboration for the superiority of the live over the film method of delivery. Moreover, this difference was not attributable to differences in the information-conveying properties of the two delivery methods. Parents and children appeared to have equally adequate knowledge of how to implement the treatment procedures, though clearly, the film delivery lacked some potent ingredients present in the live presentation. The two delivery modes tended to differ in the pattern of expectations created in both children and their parents. Of particular interest is the possibility that the film presentation led children to be overconfident in their parents, whereas the mothers in this group were more discouraged about their child's ability to implement the treatment.

Though we did not identify the specific micromediation processes that produced the delivery-mode differences found in these two studies, it is clear that merely providing children and their parents with information about how to carry out a structured behavioral-treatment program for enuresis is not sufficient to ensure optimum success. These results are disappointing from the standpoint of maximizing efficient delivery of a well-tested behavioral treatment for enuresis but they are not without precedent either in the previous enuresis treatment literature or in the more general literature regarding the use of films to deliver psychological interventions. For example, Bollard and Nettelbeck (1981) reported that families who received standard urine-alarm treatment with weekly contact and supervision from their primary therapist achieved better outcomes than comparable families who received the same treatment without regular contact and supervision. The rather dramatic differences obtained between film and live presentations in our two studies reinforces a point made by Bollard and Nettelbeck (1981): "Psychologists have long been aware of placebo effects in psychological therapies and such an effect is commonly thought to be an appreciable component in effective treatment of bedwetting" (p. 224).

Nor are the present results that different from treatment outcomes for simple phobias for which live modeling procedures have proven superior to similar film procedures (Bandura, Blanchard, & Ritter, 1969). As noted by Thelan, Fry, Feherbach, and Frautschi (1979), previous investigations demonstrating the efficacy of therapeutic videotapes have all too often failed to include comparison groups where the same intervention was delivered by a live therapist. Indeed, filmed delivery of psychological interventions has generally not proven superior to live delivery of the same interventions.

General Conclusion

The two studies reported here as well as previous reports of attempts to deliver effective treatments through films suggest that interpersonal factors may play a significant role in the delivery of some standard behavioral treatments. This raises a question about how to incorporate the elusive placebo components of explicit treatment protocols into the medium of filmed presentation. A first step in this search would be to conduct detailed process analyses of subjects' responses to film and live
presentations of the same therapeutic information. Then one would face the rather formidable challenge of capturing the ingredients of the live presentation in the film medium. Making the content of live and film presentations identical may not be sufficient because obtaining the desired responses from a film presentation could require specific modifications to the protocol precisely because the medium is different. For example, a film mode of delivery may necessitate longer introductory remarks specifically designed to engage the audience and demonstrate the therapist's concern for the client. In any case, the behavioral treatment of primary enuresis provides one testing ground for these issues.

References


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