

## Use of Paradoxical Intention in a Behavioral Program for Sleep Onset Insomnia

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Sleep onset insomnia seems often to be based on performance anxiety associated with a client's fears of being able to fall asleep; in some cases, a therapeutic program might actually exacerbate this performance anxiety by focusing on the client's efforts to voluntarily control the sleep onset process. Five cases of sleep onset difficulty, unusually resistant to a conventional behavioral program for this problem (i.e., deep muscle relaxation and systematic desensitization), were exposed to paradoxical intention suggestions requiring that they try to remain awake as long as possible, rather than attempt to fall asleep. A rapid reduction of sleep onset latency occurred following the shift from the conventional program to the paradoxical intention instructions.

Frankl (1975) has recently provided a more detailed and updated description of "paradoxical intention," a psychotherapy technique that he developed in the framework of logotherapy. He has also begun to articulate some of the links between this technique and behavior therapy approaches. This article reports the use of paradoxical intention as a complement to other behavioral procedures in cases of sleep onset "insomnia" that proved resistant to treatment.

Deep muscle relaxation as developed by Jacobson (1938) and modified by Wolpe (1958, 1974) has been used with success in sleep disturbances due to other than physiological factors (Kahn, Baker, & Weiss, 1968; Nicassio, & Bootzin, 1974). There are, however, a significant number of clients with whom relaxation alone is not sufficient to produce the desired degree of improvement. In such cases, behavior therapists have commonly used systematic desensitization focused either on the anxiety-provoking themes that occupy the client prior to sleep onset or toward anxiety directly related to the sleep situation (Borkovec, Steinmark, & Niu, 1973; Geer & Katkin, 1966). Other behavioral methods, such

as covert conditioning, thought stopping, and operant stimulus control have also been used singly and in combination.

The present article explores the use of paradoxical intention as an ancillary treatment with individuals for whom the relaxation-desensitization program seemed insufficient. It is relatively easy to apply and usually produces immediate behavior changes without the complications of medication (Kales, Allen, Schaff, & Kales, 1970). Briefly, paradoxical intention can be viewed as a behavioral prescription requiring clients to perform responses that appear to be incompatible with the goal for which they are seeking therapeutic assistance. Thus, in the present context, clients with sleep onset disturbance are requested to try to *remain awake* for as long as possible, rather than to focus on trying to fall asleep. In other words, they are asked to exaggerate the very behavior that they would like to reduce. In the present study, the course of treatment of five clients illustrates the use of paradoxical intention within a behavioral framework when the sleep difficulty did not yield to a conventional relaxation-desensitization program.

### Method

#### Subjects

All five clients had applied for treatment to the clinic of the Behavior Therapy Unit of the Department of

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Table 1  
*Characteristics of the Five Clients*

Client	Sex	Age	Marital status	Occupation	Average sleep onset latency (minutes)	Length of complaint (years)	Primary presenting problem
A	Male	32	Single	Lawyer	60	5	Primary erectile dysfunction
B	Male	27	Married	Graduate student (mathematics)	45	12	Interpersonal difficulties
C	Female	41	Married	Housewife	90	21	Sleep onset
D	Female	23	Married	Social worker	45	3	Sleep onset
E	Male	25	Single	Salesman	75	4	Sleep onset

Psychiatry at Temple University. The first author served as the therapist and conducted weekly sessions individually with each client. The clients are further described in Table 1.

### *Procedure*

Two weeks prior to initiating therapy directed at sleep onset difficulty, each client was asked to chart the approximate length of sleep onset latency each morning in addition to recording other details relevant to the sleep situation (e.g., mood when retiring, time of retiring, number of awakenings, "restfulness" of sleep).<sup>1</sup> Beginning with the initial session following this 2-week baseline period, and continuing for 10 weeks, all clients were instructed in deep muscle relaxation (Wolpe, 1974) with particular emphasis on the use of these exercises prior to retiring. Clients were also advised on the modification of their sleeping arrangements to produce optimal conditions for rapid sleep onset. With successive sessions, additional techniques were introduced as required (e.g., desensitization and covert conditioning). (Although the behavioral program outlined above has been of demonstrated efficacy with sleep onset difficulty, it failed to produce the desired improvement in the five cases reported in the present study. This represents about 10%–15% of individuals seen for sleep disturbance problems over a 4-year period.)

During the first session following the 10-week period, the therapist suggested that a modification in the procedure might enhance the patient's progress. Paradoxical intention was administered by instructing the client (with an appropriate rationale) *to try to remain awake*. Three clients (A, B, and E) were told that although the present program would eventually prove to be successful for them, specific details would be required to "further tailor therapy to meet their individual needs." These clients were told that the failure of the program at this point was possibly due to the lack of sufficient information regarding the sleep situation. It was suggested that since detailed descriptions of thoughts experienced just before sleep were required, they should try to remain awake as long as possible to experience these thoughts. If they fell asleep too soon, the necessary information would be unobtainable.

With the remaining two clients (C and D), it was

suggested that the relaxation component of the behavioral program was not of sufficient duration to "produce the level of relaxation requisite for sleep." Therefore, instructions were given to lengthen the number of steps (and, consequently, the length of time) required to complete the relaxation practice. Clients were advised to go through the entire procedure several times to achieve a satisfactory level of relaxation. They were asked to do this even if it meant resisting the urge to sleep.

The paradoxical intention procedure was continued for all five clients for 2 weeks. During the sessions the clients were asked how they had progressed with respect to the assigned tasks (either obtaining the thoughts experienced prior to sleep or increasing the relaxation procedure to achieve a "deeper" level of relaxation). Typically, they reported that they had not been able to accomplish the goal because they had fallen asleep too quickly. The therapist briefly expressed interest and encouragement on hearing this information but suggested that they redouble efforts to accomplish the goal, trying harder to remain awake. This entire interaction took only a short time during the initial portion of the three relevant therapy sessions, the remainder of which were devoted to continuation of the regular desensitization procedures.

Following the 2-week paradoxical intention period, four of the clients (A–D) were given no further sleep onset treatment. However, Client E was instructed to return to his previous program, which incorporated techniques focused on the reduction of anxiety-provoking thoughts experienced during the sleep onset latency period (i.e., thought stopping, covert positive reinforcement, systematic desensitization). The client remained on this program for 3 additional weeks, after which he was told that his efforts to reduce discomforting thoughts seemed to have been effective and that he should reemphasize the relaxation (paradoxical) component of the program. In this way, paradoxical intention instructions were again administered (this time

<sup>1</sup> These other measures seemed less relevant in this context than the latency measure, and, for the sake of brevity, they have been omitted. All of the measures followed the same pattern.

Table 2  
Mean Number of Minutes to Sleep Onset for Each Week of the Treatment Program

Week	Phase 1										Phase 2										Phase 3						Phase 4			Phase 5			
	1	2	M	1	2	3	4	5	6	7	8	9	10	M	1	2	3	4	5	6	7	8	9	10	M	1	2	3	M	1	2	M	
Patient A	36	40	38	34	28	31	26	31	30	27	33	25	35	30	14	10	12	14	10	12	14	10	12	14	10	12	14	10	12	14	10	12	
B	32	25	28.5	31	24	26	33	29	27	33	23	34	23	28.3	17	12	14.5	17	12	14.5	17	12	14.5	17	12	14.5	17	12	14.5	17	12	14.5	
C	84	96	90	63	71	68	62	80	74	79	67	64	69	69.7	4	7	5.5	4	7	5.5	4	7	5.5	4	7	5.5	4	7	5.5	4	7	5.5	
D	26	32	29	29	25	22	28	31	33	26	30	32	29	28.5	11	15	13	11	15	13	11	15	13	11	15	13	11	15	13	11	15	13	
E	59	56	57.5	36	47	42	39	43	38	40	40	37	41	40.3	7	5	6	7	5	6	7	5	6	7	5	6	7	5	6	7	5	6	
M	47.4	49.8		38.6	39	37.8	37.6	42.8	40.4	41	38.6	38.4	39.4		10.6	9.8		10.6	9.8		10.6	9.8		10.6	9.8		10.6	9.8		10.6	9.8		
SD	21.4	25.3		12.4	18.1	16.5	13	19.3	17.2	19.7	15.2	13.4	15.9		4.7	3.5		4.7	3.5		4.7	3.5		4.7	3.5		4.7	3.5		4.7	3.5		

Note. Phase 1 = baseline; Phase 2 = conventional program; Phase 3 = paradoxical intention; Phase 4 = readministration of conventional program; Phase 5 = readministration of paradoxical intention.

in a manner similar to that for Clients C and D) and remained in effect for 3 final weeks.<sup>2</sup>

Results

Table 2 presents the mean self-report estimations of sleep onset latency (i.e., the duration between "lights out" and sleep onset) for each client during the 2-week baseline period (Stage 1), the 10-week behavioral program administration (Stage 2), and the 3-week paradoxical intention period (Stage 3), which represented the terminal stage for four clients (A-D). In addition, data are reported for Client E's second behavioral administration (Stage 4) and return to paradoxical intention (Stage 5). A comparison of the sleep onset latencies during the baseline period with the data following 10 weeks of behavior modification indicates that in most cases "some improvement" was obtained, even though it was judged insufficient by the client.<sup>3</sup>

The data show a marked reduction in sleep onset latency following the administration of paradoxical intention instructions to "try to remain awake." In the case of Client E, the data for the first three stages of the study are congruent with those for the remaining clients. Sleep onset latency was somewhat reduced as a result of relaxation training and behavioral procedures directed at distracting anxiety-provoking thoughts. However, presentation of paradoxical intention instructions produced a marked reduction in sleep onset latency. Reinstitution of the previous behavioral program was coincident with an increase in sleep onset latency, which decreased again when paradoxical intention instructions were readministered. Informal long-term follow-up (by telephone) indicated that each of the clients remained satisfied with their sleep behavior after a period of 1 year.

<sup>2</sup>The clients appeared to believe the treatment rationales that they were offered, although formal data on this issue could obviously not be collected in this clinical setting.

<sup>3</sup>Formal statistical treatment is perhaps unwarranted in this study. However, the reader may wish to note that *t* tests between the baseline and behavior therapy, the baseline and paradoxical intention, and behavior therapy and paradoxical intention were, respectively, .978 (*ns*), 3.86 ( $p < .02$ ), and 4.58 ( $p < .02$ ).

### Discussion

The present study illustrates the utility of paradoxical intention within the context of the behavioral treatment of sleep onset difficulties. A reasonable question would seem to be, why did paradoxical intention produce a change that the conventional treatment alone could not? Paradoxical intention has been shown to be effective with a wide variety of psychosomatic dysfunctions, that is, physiological processes, having autonomic nervous system innervation, which can be inhibited by anxiety. Such dysfunctions can occur, for example, with various aspects of sexual activity, elimination, and, as in the present case, components of sleep behavior.

Most people experience occasional difficulty in falling asleep. This difficulty is usually seen by the individual as an isolated event precipitated by unusual excitement or tension during the day, too much sleep prior to bedtime, and so forth. Succeeding evenings normally result in a rapid return of the individual's typical sleep pattern. However, a small percentage of people view instances of sleep onset difficulty as indicants of a trend toward decreasing levels of satisfactory functioning. This latter group considers each successive evening a test of their ability to fall asleep. The level of performance anxiety increases as each test approaches. Anxiety is assumed to have a reciprocally inhibiting relationship with sleep onset (as with sexual arousal); that is, it stimulates the sympathetic nervous system, a system that alerts the organism and is the reciprocal of the parasympathetic system, which has recuperative functions compatible with sleep onset.

Some people who experience performance anxiety at bedtime appear to focus on at least two major themes: First, they monitor their level of sleep readiness. Second, they focus on negative outcomes associated with sleep loss (e.g., difficulties that they may experience on the following day, physical well-being, etc.). For these individuals, concern about successful performance and contingencies of failure serve to increase anxiety prior to bedtime and main-

tain a high level of anxiety in the sleep situation. "Trying hard" to get to sleep only makes this cycle more pernicious.

The cycle can apparently be broken by paradoxical intention, which decreases performance anxiety by redefining the situation. The paradoxical suggestion is incompatible with the "common sense" effort that the individual has been making to perform the target response. Thus, because the conventional program was aimed at helping these individuals fall asleep more rapidly, it inadvertently supports the cycle of "performance anxiety--failure to perform--increased performance anxiety." Paradoxical intention removes the client from this system. In this article, paradoxical intention was used with difficult cases. It remains to be seen whether it would be as useful with the wider range of clients complaining of sleep onset latency.

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