Outcome Studies of Rational-Emotive Therapy

David A. F. Haaga
Gerald C. Davison

INTRODUCTION

This chapter provides a qualitative review of treatment outcome studies of rational-emotive therapy (RET; Ellis, 1962) and a variant of RET, systematic rational restructuring (SRR; Goldfried, Decenteceo, & Weinberg, 1974). We have organized studies according to the type of problem or disorder being treated. This should maximize the utility of the information for clinical decision-making. Confronted with a client of Type X, what can existing data say about the likely utility of a rational-emotive treatment? Although communication might be best served by fitting problems into DSM-III (American Psychiatric Association, 1980) categories (Kazdin, 1986b), many outcome studies of RET and SRR resist such classification, either because the subjects were subclinical or because the target problem is not a DSM-III category.

A Caveat

Unlike systematic desensitization and even the more complex cognitive therapy of Beck, Ellis’s rational-emotive therapy is less clearly operationally specified than one might hope for in making in-depth outcome comparisons as we do in this chapter. Another way to formulate the problem is that the independent variable of RET is very variable indeed. Clinical supervisors have long been aware of this, and Ellis himself is certainly not unaware. The consequence for this review chapter is that the comparison of results from Study A and Study B will necessarily suffer from the strong possibility that Ellis’s principles were not implemented in the same or even closely similar fashion. What we do know and understand is that RET is much more than just telling the client that she or he is thinking irrationally and would be better off thinking differently. Assuming that Ellis is correct in his theory of personality and personality change, we would expect that anyone who could change his or her thoughts (and therefore emotions and behavior) only upon being explained the theory and told what changes to make is a person who does not have the kind of psychological problem that brings people to see a mental health professional.

Wherever possible we specify aspects of the therapy conducted. But we are more often unable to go much beyond statements of how many sessions of RET clients had. Indeed, most of the published articles themselves contain little operational information.

QUALITATIVE REVIEW OF OUTCOME RESEARCH

General Problems (Children)

Nonclinical Subjects

RET has been adapted to a psychoeducational format for children and adolescents in the form of rational-emotive education (REE; Knaus, 1974). REE tries to teach the general cognitive rationale that thoughts influence feelings, the distinctions between rational and irrational thinking, some common irrational beliefs, and ways to handle difficult situations such as being teased by peers or making mistakes. Class discussions, lectures, and stories help to convey concepts such as that situations evoke different feelings in different people (and therefore cannot be the only cause of our reactions), and that to make mistakes is human and does not justify global negative self-evaluations.

First we consider REE studies involving unselected samples but using clinically relevant dependent measures such as anxiety and self-concept. Cangelosi, Gressard, and Mines (1980) found a 24-session “rational thinking group” treatment superior to a placebo treatment (loosely structured group discussions) and no treatment in improving self-reported self-
9. Outcome Studies of Rational-Emotive Therapy

concept among high school student volunteers (n = 36, 33 girls). There were no assessments to ensure that the placebo treatment (which, along with the rational-emotive group, was run by the first author) actually matched the rational thinking group on nonspecific factors. As in other studies of REE with nonclinical samples, there was no longitudinal follow-up to document a preventive impact, the ultimate goal of such programs.

Knaus and Bokor (1975) evaluated REE as a treatment for test anxiety and self-concept among sixth grade students (n = 54). REE and a self-concept enhancement program were conducted in 85 sessions of 10-30 min each, 3 days a week, and a no-treatment control was also included. One month after the end of treatment, REE students had significantly higher self-esteem scores than did those in either of the other groups, and both treated groups were lower in test anxiety than were controls. This result, if replicable, would be especially encouraging, in that the treatment programs were administered by classroom teachers after only 3 hours of formal training, suggesting excellent disseminability of the treatment. The finding is somewhat dubious, however, in view of a high attrition rate (26 of original 80 subjects) and, especially, nonrandom assignment of classes to treatment conditions (REE was assigned to a particularly enthusiastic teacher).

Grade level affected the impact of REE on self-reports of neuroticism and trait anxiety in one study (DiGiuseppe & Kassinove, 1976). A 15-session REE program was compared to a human relations course involving psychodynamic principles, as well as a no-treatment control. At posttreatment, REE was significantly superior to the other groups in terms of irrationality, neuroticism, and trait anxiety among fourth-grade students. REE seemed less effective for eighth-grade students, though, showing significant superiority only on irrationality. An unusual feature of this study was the omission of pretesting on the dependent measures. Although this has been criticized (Seeman, 1976), it does eliminate possible demand characteristics of repeated testing (Mahoney, 1978). The most serious methodological weakness affecting interpretability of the impact of REE for the fourth graders is that the two active treatments were both conducted by the first author, leaving open the possibility of differential leader enthusiasm and competence favoring REE.

Following up these encouraging results among fourth graders, N. Miller and Kassinove (1978) conducted a components analysis of REE with fourth graders, using the same dependent measures. REE in a strictly lecture and discussion format was compared to REE with behavior rehearsal and REE with behavior rehearsal and formal homework (written ABC [activating events-beliefs-emotional consequences] analyses of situations). All treatments were 12 weekly sessions. The no-treatment control was selected from another school, and the first author was therapist for all three treatments, so results should probably be considered tentative. All three REE groups exceeded controls on rationality measures, with some indication of added benefit from the full-treatment package. All treated groups did better than controls in terms of neuroticism, the full treatment being superior to REE alone. Finally, trait anxiety was reduced significantly more by the full package than by REE or no treatment; REE with behavior rehearsal also exceeded control on this measure. Thus, there was some suggestion that the full program was superior to the lecture-discussion format alone, though neither additional component alone seemed to add much. Intelligence did not interact with treatment outcome. The lower-IQ group (M = 102) was in the average range, though, making this a fairly conservative test of the prediction that more intelligent subjects would respond better to RET.

Finally, Jasnow (1982) treated sixth graders with 15 semiweekly 30-min sessions of relaxation training (n = 36) or RET with rational-emotive imagery (RET; Maultsby, 1977) (n = 37), compared to no treatment (n = 22). RET exceeded no treatment in reducing self-reported neuroticism and trait anxiety; relaxation training was superior to control on these measures as well as parent ratings of the child’s anxiety. RET was significantly better than relaxation training for reducing neuroticism.

Summary. Rational-emotive psychoeducational programs for nonclinical children seem to be effective in reducing self-reported irrationality, neuroticism, test anxiety, and trait anxiety, as well as improving self-concept. These results may hold especially for elementary school students (DiGiuseppe & Kassinove, 1976), though Cangelosi et al. (1980) reported improved self-concept among high school students. Most of the data base seems flawed by possible biases such as having the author conduct both REE and comparison treatments or having a placebo control without ensuring its credibility. There is little evidence of REE’s superiority to other credible treatments such as relaxation training or of its impact on non-self-report measures (Jasnow, 1982).

Besides attending to methodological refinements such as fully random assignment of interventions to classrooms and the use of multiple therapists equally enthusiastic and competent for each treatment condition, we see two most important next steps for REE research with nonclinical populations: (1) Conceptual/methodological analysis of the treatment target of “self-concept” or “self-esteem.” This tends to get measured by scales (e.g., Piers Harris Children’s Self-Concept Scale; Piers & Harris, 1969) on which high scores apparently reflect positive self-rating
(e.g., “I am good in my school work,” “I have a pleasant face”). The treatment philosophy embedded in RET, on the other hand, seems directed much more toward lack of self-rating (Ellis, 1977a; A. A. Lazarus, 1977), so it is not clear to us that traditional self-concept measures are appropriate.

(2) Above all, there is a need for longitudinal studies documenting that RET prevents subsequent emotional/behavioral disorders to some degree. This would appear to be the most critical test of a psychological intervention for nondisturbed children.

Clinical Subjects

RET has also been applied to clinical child samples. Von Pohl (1982) studied RET, in a residential and day treatment facility, for six emotionally disturbed children (aged 6 to 12, mostly with acting-out problems). Subjects were selected on the basis of the experimenter’s informal impression that they exhibited irrational thinking, which was not assessed. Neither inferential statistical analysis nor a controlled experimental design could be implemented due to small sample size, and behavioral trends were less than clear. However, three of four off-task behavior categories (talking out of turn, complaining, wasting time, being out of seat) appeared to decline during the 4-week treatment phase, though follow-up assessments during the 3 weeks after treatment suggested some return toward pretreatment levels of problematic behaviors.

Rose (1982) compared RET to REE with REI and to a control (human relations course) with emotionally disturbed (n = 35, not formally diagnosed but reported to be mostly conduct or attention-deficit disorder cases) and nonclinical (n = 71) students aged 8 to 12. Treatments were conducted in 15 weekly 30-min sessions. Although the nonclinical students in the RET and REI group seemed to learn the concepts of the treatment (significantly greater improvement in rationality scores than in control group), there were no group differences, nor any interactions with clinical status of subjects, on measures of self-concept, trait anxiety, or classroom behavior ratings made by teachers.

With learning disabled children aged 8 to 11 (n = 60), on the other hand, a 24-session RET class outperformed an attentional control condition in increasing internal locus of control and three of five scales of a self-concept measure (Dimensions of Self-Concept: level of aspiration, leadership and initiative, anxiety; Omizo, Cubberly, & Omizo, 1985). It may be that this RET study with a clinical sample looked more favorable for the program because it was longer than in Rose (1982) (24 vs. 7.5 hr of treatment). Less favorably, it could be because differential attrition was ignored in calculating group differences (the 6, of 30, RET subjects missing at least 4 of 24 sessions were not included in data analyses) or because the control condition was less formidable (small group meetings to listen to short stories).

Summary. Outcome data do not support RET as a treatment for the core disorder of any clinical group, and only weak evidence indicates its possible utility as an adjunctive treatment to bolster self-concept and the like.

General Problems (Adults)

In the first report on RET outcome, Ellis (1957b) indicated his own differential effectiveness using RET, analytically oriented psychotherapy, or orthodox psychoanalysis, each of which he had embraced in turn as a mode of practice. Clients were a mixed group, diagnosed as neurotic or borderline psychotic, each of whom had remained in treatment for at least 10 sessions (M = 26 sessions for RET, many more than in most systematic outcome studies to follow). Ellis’s global rating of “little or no,” “some distinct,” or “considerable” improvement, made when each case was closed, suggested significantly more favorable results with RET than with other treatments. Nearly half (44%) of the RET (n = 78) cases showed considerable improvement, compared to 18% for analytically oriented therapy (n = 78) and 13% for analysis (n = 16).

In the light of current standards of outcome research, this study is obviously flawed evidence favoring RET (e.g., type of treatment is confounded with the therapist’s professional development, RET being his eventual choice; criteria for judging improvement are unspecified, and ratings were not corroborated by independent judges blind to group membership; we do not know how many clients failed to complete at least 10 sessions of each treatment and why; comparison treatments are poorly specified; assignment was not random).

Still, this report stands as an historically significant clinical announcement of the potential viability of a new treatment approach, analogous to Wolpe’s (1958) book, Psychotherapy by Reciprocal Inhibition, and provided interesting leads amenable to subsequent formal evaluation. Ellis’s impression was that neurotic clients who showed at least some distinct improvement during RET changed many but not all of their irrational beliefs, with excessive needs for competence and achievement being perhaps the most difficult to give up. Decline in irrational beliefs appeared to be associated with greater treatment effectiveness (see T. W. Smith, 1983, discussed below), in accord with Ellis’s theory of therapy.

An employee assistance program based on RET was offered to 600 oil company employees (60% self-referred, 40% other-referred), over a 3-year
Outcome Studies of Rational-Emotive Therapy

9. Outcome Studies of Rational-Emotive Therapy

period (Klarriech, DiGiuseppe, & DiMattia, 1987). About one-eighth (13%) refused treatment. Presenting problems involved personal-emotional troubles in a slight majority of cases, others being marital-family, alcohol-drug, and job-related problems. After treatment \((M = 4.1 \text{ sessions})\), most (75%) employees rated the program as “very helpful” and their problems as “totally improved.” For a subsample of completers \((n = 295)\) for whom all relevant data were available, absenteeism was substantially lower \((M = 3.0 \text{ days})\) the year after participation in the program than the year before \((M = 10.3 \text{ days})\). The high level of consumer satisfaction and impact on absenteeism suggest that it would be very worthwhile to conduct controlled evaluations of RET in such settings, including more thorough psychological assessments of the employee-clients.

Gombatz (1983) reported generally similar effectiveness of brief (three individual sessions) programs of RET, client-centered therapy, and paradoxical directives for student volunteers. Subjects were not very distressed (e.g., not currently in therapy, not judged by experimenter to need professional attention). Each subject selected a focal problem to address (e.g., weight loss, career decisions) and then rated after treatment to what extent improvement had been made in this area. All three treatment groups achieved average ratings somewhere between “moderate” and “great” improvement, significantly exceeding a no-treatment control condition. Anxiety, depression, and hostility scales of the Brief Symptom Inventory revealed nonsignificant posttreatment differences between RET and no-treatment or client-centered therapy subjects, paradoxical directives being superior only on the anxiety scale.

Two common adjunctive components of RET, bibliotherapy and audiotherapy, were tested in the context of a Community Mental Health Center waiting list (Kassinove, Miller, & Kalin, 1980). Subjects \((n = 34)\) were described as “neurotic.” During 8 weeks of waiting for a therapy assignment, subjects received either (1) no contact from the center; (2) rational-emotive bibliotherapy, 16 sessions of coming to the center to read materials on RET; or (3) rational-emotive audiotherapy, 16 sessions of listening to audiotapes describing rational-emotive philosophies and approaches to dealing with problems. Both treated groups exceeded the no-treatment group in increasing rational thinking, but only bibliotherapy was superior to no treatment in lowering self-reported trait anxiety and neuroticism. Bibliotherapy is not typically used alone, but it seems to be a promising option for clinics faced with the practical problem of maintaining interest among, and providing some benefit to, clients who cannot be seen immediately for treatment.

Fifty CMHC clients with mixed symptoms, such as marital distress, depression, anxiety, and guilt, were assigned to either (1) no treatment; (2) supportive therapy plus Jacobsonian muscle-relaxation training; or one of three variants of RET (3) orthodox RET, including behavioral homework assignments and bibliotherapy as appropriate; (4) RET and rational role reversal (RRR)-including a 15-min period in each of the last 10 (of 12) sessions in which the client leads the therapist through an ABC analysis of a problem; or (5) RET and REI (Lipsky et al., 1980).

All three RET groups improved on self-reported rationality, neuroticism, and depression more than did relaxation or no-treatment groups. RET groups significantly bettered no treatment on one anxiety scale, the Multiple Affect Adjective Check List (MAACL; Zuckerman, Lubin, & Robins, 1965) and were nonsignificantly superior to both controls on another, the trait scale of State Trait Anxiety Inventory (STAI-T; Spielberger et al., 1970). Adding RRR significantly improved standard RET in terms of neuroticism, trait anxiety, and depression, while including REI added to the effectiveness of RET for both anxiety measures.

A major focus of this study concerned the relationship of client intelligence, measured with a short form of the WAIS, and treatment effectiveness. The lower-IQ group \((M = 94)\) reduced depression scores more than did the higher-IQ group \((M = 110)\), and for trait anxiety intelligence interacted with group status, higher IQ subjects doing better in RET + REI and lower IQ subjects doing better with relaxation training. Thus, there was relatively little evidence of a rational-emotive approach being more appropriate for more intelligent clients, though a wider range of IQ scores and a greater number of subjects (median splits left five higher-IQ and five lower-IQ subjects in each treatment condition) might have altered this conclusion.

T. W. Smith (1983) reanalyzed the Lipsky et al. data to see if, as predicted by RET theory, change in irrational beliefs related to change on the primary clinical dependent measures. After adjustment for pretreatment levels and group membership, change scores on irrational beliefs (Idea Inventory, II; Kassinove et al., 1977) correlated significantly with change on each of the dependent measures, ranging from -.41 (MAACL anxiety scale) to -.63 (neuroticism). These correlations were at least as great, though, in control as in RET groups. This might mean that increasing rationality, no matter how achieved, is associated with decreased negative affect. However, it could just as well mean that the II measure of irrationality is confounded with distress; before treatment, II scores correlated significantly with each of the other measures but MAACL-A scale, and there is no convincing evidence of the II’s convergent and discriminant validity (T. W. Smith, 1982).

Summary. The set of studies discussed above is unusual among those we review. All concerned individual therapy; samples were heterogeneous.
with respect to target problems, and four of the five samples consisted of clients who had sought treatment.

Lack of follow-up assessments or multisource dependent measures tempers confidence in the changes observed in most of these studies, but the following conclusions seem defensible: (1) even a brief RET program can lead to some change on target problems, though this benefit does not generalize to mood measures or exceed that of alternative counseling methods (client-centered, paradoxical) for nonclinical subjects (Gombatz, 1983); (2) for mixed clinical samples, (a) preliminary evidence suggests that an employee assistance program based on RET could help to address personal problems and reduce employee absenteeism (Klarreich et al., 1986); (b) bibliotherapy may be a useful adjunct (Kassinove et al., 1980); (c) RET appears to be more helpful than is relaxation or no treatment, with rational role reversal and rational-emotive imagery seemingly useful techniques (Lipsky et al., 1980); (d) no tailoring information based on client-treatment interactions is available; and (e) reduction in irrational beliefs is associated with reductions in self-reported negative affect (Ellis, 1957b; T. W. Smith, 1983), but this may represent confounding of irrationality and distress measures (T. W. Smith, 1983).

**Stress Reduction**

RET has been adapted in two studies to the form of psychoeducational workshops designed, in a primary prevention effort, to help currently well people manage stress effectively and thereby avoid becoming distressed. Wakefield (1982) evaluated a three-session course for undergraduates in workshops designed, in a primary prevention effort, to help currently well belief is associated with reductions in self-reported negative affect (Ellis, 1975) along with nutritional and exercise advice; the RET class also received some of the same information about health habits.

At posttreatment and 2-month follow-up, RET subjects showed the greatest improvements in rationality. They also indicated reductions in global severity of symptoms on the BSI, significantly more so than did the waiting-list group, nonsignificantly more so than the health-counseling group. RET significantly bettered both comparison groups in effecting improvement (through posttreatment and follow-up) on a novel self-report measure of how distressing subjects would find a list of events. Both active treatments were associated with reports of fewer undesirable events in the 2 months between posttreatment and follow-up. Paralleling T. W. Smith’s (1983) analysis, change in II scores from pretreatment to follow-up were strongly related to changes in distress as measured by the BSI (.56 for total sample, .69 for RET subjects).

One concern in evaluating the stress-reducing impact of this RET course is that nearly one-fourth (5 of 23) of the subjects dropped out of their groups prior to completing the three sessions, and follow-up data were based on 17 of the original 23 randomly assigned subjects, compared to 21 of 23 in the health counseling group.

McGee (1984) assigned volunteer subjects \( n = 61 \) who considered themselves stress-prone to no treatment or to a 4-week Cognitive Behavioral Stress Management (CBSM) program. The CBSM program included education about the physiology and psychology of stress, irrational beliefs, and ABC analyses of situations. On the self-report Derogatis Stress Profile, CBSM groups showed significant advantages over no treatment on subscales measuring sense of time pressure and relaxation potential, as well as a combined category of stress in one’s personal domain, and a total stress score. No follow-up data were available to confirm the preventive impact of reductions in perceived stress. Some attempt to control the experiment-wise Type I error rate would also have been helpful in interpreting the significant findings, given that 16 analyses of covariance on posttreatment scores were conducted.

**Summary.** There is preliminary evidence that RET can effect reductions in perceived stress among well people. Evidence of a preventive effect is weak, though. Only one study conducted a follow-up, and (1) the advantage of RET over relaxation training for reducing self-reported global symptoms was nonsignificant; (2) attrition, higher in RET, was ignored in evaluating the results; and (3) no attention was given to issues of treatment compliance (e.g., did relaxation subjects actually practice twice a day?).

**Anxiety**

**Generalized Anxiety**

Undergraduates \( n = 51 \) wanting to participate in anxiety-reduction workshops were randomly assigned to the following groups for seven sessions: (1) RET; (2) progressive relaxation training (Bernstein & Borkovec, 1973); (3) an attention placebo group, who were told that they could reduce anxiety by learning about different “learning styles”; and (4) no treatment (Walsh, 1982). Interestingly, subjects’ pretreatment levels of self-reported trait anxiety were only average for a college sample.

At posttreatment, RET was superior to the other groups in reducing trait anxiety (STAI T), as well as informant reports of how anxious the subject
had seemed recently. Another self-report anxiety measure (MAACL-A) showed no significant effects of group status on an analysis of variance, so no multiple comparisons of group means were conducted. Making multiple comparisons contingent on a significant F test is a common practice, but it restrains the type I error rate below the nominal alpha level (Wilcox, 1985) and should probably be reconsidered. The experimenter led all groups, potentially a source of bias, though a rater who monitored two sessions of each type reported observing equal enthusiasm across conditions.

Stewart (1983) recruited undergraduates \((n = 30)\) for four sessions of individual treatment to reduce anxiety, randomly assigning them to systematic desensitization (SD; Wolpe, 1958) or RET. RET was less effective than SD in lowering self-reported state anxiety by the end of the first session, but the two were equivalent thereafter.

A 4-week study/discussion group RET program for well older adults (\(> 60\) years old) was compared to no treatment \((n = 15\) per group) (Keller, Croake, & Brooking, 1975). The treated group lowered self-reported trait anxiety from pre- to posttreatment significantly but modestly (STAI-T, \(M = 47.4\) pretreatment, 44.1 posttreatment) and lowered irrational belief scores. They were not directly compared to the untreated controls, but the latter group did not change significantly on either dependent variable.

Summary. The meaning of this set of studies is somewhat difficult to evaluate. RET does seem helpful in reducing self-reported general anxiety. Subjects in these studies do not appear to have been very distressed, however, and the only indication of RET’s superiority to another active treatment, relaxation training, derived from a study in which the author conducted all treatments and in which subjects began treatment at normative levels of anxiety.

None of these studies measured anxiety through overt behavioral or physiological channels, which could have provided a more thorough picture of the efficacy of therapy (Bernstein, Borkovec, & Coles, 1986) and allowed identification of synchronous and desynchronous responders (Turner & Michelson, 1984).

Social Phobia

Speech Anxiety. Undergraduates \((n = 22)\) reporting "more-than-minimal level of anxiety" (Karst & Trexler, 1970, p. 361) but not phobically avoidant of public speaking were assigned to RET, fixed-role therapy (FRT) based on the theory of George Kelly (1955), or no treatment. Treatments took place in three small-group sessions led by the authors as cotherapists. \(^1\) Immediately after treatment, improvement scores favored fixed-role therapy, relative to RET, which in turn exceeded no treatment, on a single-item anxiety measure taken just before the subject gave a speech. Speech anxiety and general anxiety self-reports indicated equality of the treatment groups, with both superior to no treatment. The behavioral observation measure of speech anxiety could not be coded reliably.

Six months after treatment, treated subjects were contacted by mail and asked some general questions about their progress, none of which indicated significant between-groups differences: Overall, 80% reported being at least somewhat less anxious than before the study, and 60% reported receiving at least some benefit by way of generalization to anxiety in other interpersonal situations.

All self-report measures in this study favored fixed-role therapy, at least in nonsignificant trends, but the authors acknowledged that this could have stemmed from the FRT subjects being slightly worse off to begin with and therefore having more room for improvement. Also, FRT apparently involved more direct behavioral practice than did RET.

Trexler and Karst (1972) compared RET (four sessions) to an "attention-placebo" treatment (relaxation training) and no treatment in the small-group treatment of undergraduates \((n = 33)\) with greater than average speech anxiety. Both treatments were conducted by the first author. At posttreatment, change scores favored RET over the other groups on self-reports of irrationality (Irrational Beliefs Test, IBT; Jones, 1968) and speech anxiety (modified Personal Report of Confidence as a Speaker, PRCS; Paul, 1966). Relaxation training exceeded the other groups in improving state anxiety just before a speech, and blind raters’ behavioral observations of speech anxiety indicated no significant group differences. Treatment expectancies measured at the first session and ratings of the therapy and therapist after treatment did not differ significantly across groups.

All subjects eventually received the RET treatment, and with all subjects combined RET effected significant improvement on all dependent measures. Follow-up (6 to 7 months) self-reports suggested a trend toward continued reduction of speech anxiety.

Systematic rational restructuring (SRR; Goldfried et al., 1974) is a variation of RET which involves teaching a client to use rational self-statements to reduce emotional arousal while imagining a graded hierarchy of upsetting situations. Lent, Russell, and Zamostny (1981) compared SRR to cue-controlled desensitization, a placebo treatment (presentation of nonsense syllables at high speed through tachistoscope, billed as "subconscious reconditioning"), and no treatment, for undergraduates scoring above the 80th percentile on the PRCS \((n = 53)\). Groups met for five weekly sessions. Credibility ratings were made after sessions 1, 3, and 5, and with the exception of SRR being more credible than the placebo after the first session, differences across groups were nonsignificant throughout, suggesting good control for this factor.
SSR led to significant improvement on total duration of a practice speech (shorter duration assumed to indicate greater anxiety) and the Anxiety Differential, a measure of state anxiety before the test speech. It failed to significantly influence behavioral ratings of anxiety in the test speech or several other speech anxiety and general social anxiety self-reports. Desensitization and even placebo showed positive outcomes on more measures. Desensitization was significantly superior to SSR on self-report speech anxiety measures. By 8-week follow-up, though, SSR subjects were showing greater continued improvement on self-reported speech anxiety, exceeded no-treatment controls and caught up to desensitization subjects on the PRCS.

Thorpe, Amatu, Blakey, and Burns (1976) studied RET for speech anxiety by way of conducting a components analysis of self-instructional training. Secondary school students \( (n = 32) \) who had volunteered for an anxiety reduction program were assigned to the following treatment groups: (1) In General Insight (GI, considered the RET representative), subjects learned about common irrational beliefs without specific reference to public-speaking anxiety. (2) Students in the Specific Insight (SI) group discussed a few irrational beliefs thought to relate to speech anxiety. (3) In the Instructional Rehearsal (IR) group, four putatively adaptive rational beliefs were presented and rehearsed while imagining a speaking situation. (4) Specific Insight and Rehearsal was a combination of SI and IR components.

Therapists were rated as equally competent and likable, and treatments did not differ in credibility to subjects. Behavioral speech-anxiety measures showed no differences across groups. General insight into irrational beliefs was more helpful than the rehearsal treatments with regard to reported perceived benefit. Treatments excluding rehearsal of RB’s (general or specific insight) were superior on several self-report measures of anxiety.

Summary. SSR did not appear at posttreatment to be a useful treatment for speech anxiety, being inferior to desensitization and failing to reduce behavioral and general self-report indices of speech anxiety (Lent et al., 1981), though follow-up self-reports were more favorable. RET has yet to show superiority to no treatment on observational measures of speech anxiety, and it appears to be less effective than alternatives (relaxation, fixed-role therapy) for reducing state anxiety before a speech. It does seem to improve general self-reports of speech anxiety, and this effect is maintained. It probably achieves results more from insight into irrational beliefs rather than practice of adaptive, rational beliefs (Thorpe et al., 1976).

Test Anxiety. Undergraduates scoring above the 75th percentile on a self-report measure of test anxiety \( (n = 61) \) were assigned to a placebo treatment (which entailed a classical conditioning rationale and a practice test under nonevaluative conditions to extinguish test anxiety), study skills information, progressive muscle relaxation training, or RET (Ricketts & Galloway, 1984). Each treatment consisted of one session, just after the middle of the semester, and postassessments were conducted just before final exams.

The self-report measure indicated significantly superior improvement among relaxation subjects than among placebo subjects. Otherwise there were no significant differences on test anxiety or exam scores.

Warren, Deffenbacher, and Brading (1976) compared RET groups (seven sessions) to no treatment for fifth and sixth graders \( (n = 36) \) scoring over 15 (highest 28%) on the Test Anxiety Scale for Children (TASC; S. Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960). RET subjects reduced their TASC scores from pretreatment to posttreatment significantly more than did controls \( (M = 18.9 \text{ to } 11.4, \text{ vs. } 18.3 \text{ to } 15.0) \). The groups did not differ, however, at posttreatment on a general anxiety scale or on performance on an arithmetic exam.

A six-session RET program for test anxiety was compared to the same program with 10 min of each of the last three sessions devoted to REI with test-anxious undergraduates \( (n = 11) \) (Hymen & Warren, 1978). Both groups were co-led by the authors.

Dependent measures included assessments of irrationality (IBT), social anxiety, state and trait test anxiety, and test performance (Digit Symbols test), and grade point average. Between-group differences were nonsignificant on all measures, perhaps because there were too few subjects to detect small-to-moderate effects. The combined groups showed significant improvement on all measures (including GPA, from \( M = 2.60 \text{ to } 2.86 \)) from pre- to posttreatment, nonsignificant change from posttreatment to 1-month follow-up on those that were retested (IBT, test anxiety, test performance). Self-monitoring records indicated that neither group spent the instructed amount of time on homework assignments, reducing the integrity of treatments (Primakoff, Epstein, & Covi, 1986).

Barabasz and Barabasz (1981) noted that many test-anxiety studies fail to measure psychophysiological aspects of anxiety. Test-anxious students \( (n = 54) \) were assigned randomly to RET (four sessions), an attention placebo condition (study skills information, judged by subjects to have been highly plausible), or no treatment. Both treatments were presented on audiotape. RET was significantly more successful than the other conditions in reducing test anxiety as measured by self report and by skin conductance responses to one of two test anxiety scenes (anticipatory anxiety, not actual bad performance).

The authors noted that they administered the test anxiety self-report only after treatment because pilot data involving a Solomon four-group
9. Outcome Studies of Rational-Emotive Therapy

Design revealed significant pretesting effects (see above discussion of DiGiuseppe & Kassinove, 1976).

Wise and Haynes (1983) compared SRR to attentional training and a wait-list control for undergraduates (n = 38) who volunteered for test anxiety treatment and reported at least moderate test anxiety. Treatment groups were conducted in five weekly sessions using imaginal exposure to test scenes and then coping either with rational restructuring or focusing one’s attention on task-relevant features. SRR and attentional training did not differ significantly in results, though SRR was marginally superior in lowering social anxiety (SAD, FNE). The combined pool of treated subjects did better than wait-list subjects in reducing self-reported test anxiety and test performance (WAIS subscales), not on social anxiety or state test anxiety prior to completing the performance tests. Test anxiety and social anxiety scores were nonsignificantly different for each group at 8-month follow-up from posttreatment, suggesting maintenance of gains, although only 60% of the subjects could be followed.

Some interesting results emerged from attempts to predict outcome in this project. Success expectancies at the end of the first session did not predict outcome, contrary to what one would expect from arguments that such ratings constitute a necessary control for the separation of placebo from specific factors in treatment.

A process measure did predict outcome on the test anxiety scales, beyond what could be accounted for by pretreatment scores. Subjects’ ratings of the anxiety reduction experienced as a function of their coping response for the first scene presented in the fourth session significantly predicted final outcome.

Goldfried, Linehan, and Smith (1978) compared SRR, prolonged imaginal exposure (to test anxiety hierarchy, with client’s focus on his/her emotional reaction, which should then extinguish, as opposed to focus on irrational beliefs and rational reevaluations), and a wait-list control. Subjects were adults (n = 36) who responded to advertisements and who were not in treatment at the time.

SRR was significantly superior to the other groups on several measures of test anxiety (Suinn Test Anxiety Behavior Scale, STABS; Suinn [1969], Achievement Anxiety Test debilitating scale; Alpert & Haber [1960], SR Inventory of Anxiousness “exam;” SRIA, Endler, Hunt, & Rosenstein, 1962) and social anxiety (Fear of Negative Evaluation and Social Avoidance and Distress scales, FNE, SAD; D. Watson & Friend, 1969). By 6-week follow-up of the treated groups, SRR was superior to exposure on the STABS, SAD, and SR Inventory situation only.

Finally, Arnkoff (1986) evaluated a coping component of cognitive restructuring, a restructuring component, and a wait-list control for test-anxious students (n = 49). The coping treatment, derived from Meichenbaum (1972), focused on what students could do to cope with stress in an exam situation (e.g., direct attention to the test itself rather than oneself, reduce worrying). Restructuring, which we take to be the RET proxy in this study, involved helping students rethink the proper role of achievement in life, the need to perform competently at all times, and the like, the hope being that exams would come to be less stress-inducing in the first place. Both treatments were conducted in groups, in four weekly sessions. In between sessions, subjects were instructed to practice their techniques via imaginal rehearsal of test situations.

On the main test anxiety measure there were no significant differences across groups after treatment, though both treated groups showed trends toward superiority over wait-list controls, and both treated groups improved from posttreatment to 10-week follow-up. An analogue test performance measure, evaluation of the treatments at follow-up, credibility ratings after one session, and a state anxiety measure filled out just before one of the subject’s final exams all showed no between-group differences. Coping subjects got better grades during the term of treatment than did restructuring subjects (controls being in the middle, nonsignificantly different from either), but this difference did not continue through the next semester.

Although the overall results of treatment were disappointing in this study, several methodological niceties made it an especially interesting study. First, a counterdemand manipulation was employed to try to isolate “specific” from placebo effects of treatment. Subjects heard that test anxiety would likely decline only the semester after treatment, when they had had sufficient time to practice the techniques they had learned. Sure enough, both treatment groups showed significant declines in test anxiety scores only from posttreatment to follow-up the next term.

Second, two types of treatment-relevant cognitive assessment were employed, the IBT (tailored to content of the restructuring treatment) and a thought listing of 3 min of subjects’ cognitions shortly before a final exam (coinciding more with the material dealt with in the coping treatment). Surprisingly, only the coping group was significantly superior to controls on the IBT at posttreatment, though the two treatment groups did not differ significantly. On the thought-listing measure, the coping group reported proportionately more positive and fewer negative thoughts than did controls, the restructuring group fewer negative thoughts than did controls. Thus, the cognitive impact of treatment was not entirely predictable from the theoretical focus of the treatments.

Finally, 1-minute videotaped segments from treatment sessions were shown in random order to coders who had not seen treatment manuals or descriptions. Over 80% of the segments from each condition were rated
as containing only the intended type of content (discussion of self-statements in the coping groups, beliefs in the restructuring groups), and no segments contained only the type of content relevant to the other treatment. This sort of information helps to satisfy some logical prerequisites for interpretation of comparative outcome studies (Kazdin, 1986a). That is, the treatments differed in the intended ways, enough that differences could be detected in brief out-of-context segments by nonexperts.

Summary. SRR appears to be useful for treating test anxiety, possibly improving more general social anxiety and test performance as well, and being at least equal to alternative treatments, possibly superior to imaginal exposure alone.

RET was useless as a one-session educational intervention (Ricketts & Galloway, 1984), relatively so in the form of its cognitive restructuring component alone (Arnkoff, 1986). Superiority to no treatment and a credible placebo was established on self-report and psychophysiological measures in one study (Barabasz & Barabasz, 1981), and within-group improvement on self-report and behavioral measures in another (Hymen & Warren, 1978).

Interpersonal/Social Anxiety. Numerous studies have examined the effectiveness of RET and SRR for reducing social anxiety. We detail four studies of SRR for social anxiety; in general they seem to suggest that it is at least as effective as desensitization and therefore more effective than no treatment.

Doppelt (1984) compared SRR to self-control desensitization (SCD; Goldfried, 1971) and no treatment for socially anxious (> 16 on SAD) adults (n = 60) who responded to advertisements. Treatments consisted of six weekly 90-minute group sessions. SCD resembles SRR except that subjects try to cope with anxiety-arousing imagery through relaxation rather than through rational reevaluation of the beliefs that upset them.

In terms of the SAD, SCD and SRR were equivalent at both posttreatment and a 3-week follow-up, both superior to no treatment. The same pattern held on the other social anxiety measure (FNE) for high-rational subjects only. Among low-rational subjects (above median on IBT before treatment), SRR fared worse than the other groups at posttreatment, and all were equivalent at follow-up. Both SCD and SRR lowered trait anxiety (STAI T) as well and were equivalent to one another. Only SRR was significantly superior to the wait-list control in reducing IBT scores.

For the most part, then, the treated groups were equivalently successful overall (there were no significant overall differences between SCD and SRR at posttreatment or follow-up), and there was little evidence of an interaction of client rationality with type of treatment. In fact, one might have expected low-rational subjects to do better with SRR rather than worse.

Likewise, Shahar and Merbaum (1981) found nonsignificant differences between SRR and SCD for subjects (n = 54) reporting high social anxiety, with both improving subjects’ self-rated interpersonal activity through 4-month follow-up. Both groups also improved self-reported anxiety after a role play interaction, as well as several overt behavioral dimensions, but not pulse rate after the role play. Interaction of treatment type with subject’s physiological reactivity (SRR expected to be most effective for low physiological reactors) was nonsignificant on most measures.

Malkiewich and Merluzzi (1980) compared SRR to systematic desensitization (SD) and a wait-list control group in the brief (five weekly sessions) group treatment of socially anxious male undergraduates (n = 59). Dependent measures included the SAD and FNE, a behavioral rating of social anxiety derived from the subject’s conversation with two other subjects, and the subject’s positive and negative thoughts after this conversation, collected via thought listing (Cacioppo & Petty, 1981).

Multivariate analysis of treatment effects on all these measures showed SRR to be significantly superior to no treatment, whereas SD was marginally superior to no treatment, and the two active treatments did not differ significantly from one another. SRR significantly exceeded SD on the self-report social anxiety measures combined and was the only treatment to better the control group on behaviorally rated social anxiety (only when the first 4 min were extracted from the 8-min conversation). Interestingly, the three groups did not differ on positive or neutral thought categories, and SD equaled SRR (both doing better than no treatment) in reducing negative thoughts during the behavioral test, so cognitive modification was not the special province of the “cognitive” treatment condition.

Fewer than half (27 of 59) of the subjects provided 4-week follow-up data, which were limited to the FNE and SAD and revealed maintenance of treatment gains.

Although SRR exceeded SD in reducing scores on the combined self-report social anxiety measures, confidence in its superiority to SD for social anxiety is tempered by the lack of differential effects on overt behavioral measures and the possibly subclinical nature of both subjects (who were accepted if they scored above the pretreatment median on SAD and FNE combined) and therapists (undergraduates trained for the project).

Kanter and Goldfried (1979) recruited subjects (n = 68) responding to advertisements and reporting interpersonal anxiety as a primary problem, but not currently in treatment, for a comparison of SRR, SCD, SCD and SRR, and a wait-list control. Treatment groups met for seven sessions, using a standard hierarchy of 12 social situations.

All groups resulted in equivalent expectations for success, as rated after the first treatment session, and in equivalent consumer satisfaction ratings
after treatment and at 9-week follow-up. There were no significant group differences in behaviorally assessed social anxiety, nor in pulse rate reactivity to the behavioral test. Self-report indices of social anxiety (FNE, SAD, SRIA social subscales), general anxiety (STAI-T, SRIA nonsocial subscales), and irrational beliefs (IBT) suggested more consistent effects of SRR and SCD than of SCD, relative to controls. SRR was significantly superior to SCD on only a few of the variables, however (STAI-T, FNE, STAI-S after the behavioral test on post-test change scores; STAI T, FNE, IBT on pre-follow-up change scores). The combination treatment was no more effective than SRR alone.

The authors concluded that SRR seems preferable to SCD for social anxiety. There are several problems to be noted, however: (1) Much of the authors’ conviction is based on the number of dependent measures altered to a statistically significant degree, as though each subscale of the SRIA were as important as the entire overt behavioral rating of social anxiety. (2) Few statistically significant (let alone large) differences between active treatments emerged, relative to how many tests were conducted. (3) The first author was the sole therapist for all treatments and may have been more competent in conducting SRR than SCD.

Six individual sessions of RET directed at excessive approval needs proved to be more helpful in alleviating social anxiety/sensitivity than an attention placebo treatment in which the therapists limited themselves to reflective statements and to no treatment (Yu & Schill, 1976). The superiority of RET held for posttreatment and 3-week follow-up on a homemade scale for Fear of Disapproval, a rating of the anxiety felt when in the presence of a person nominated before treatment by each subject as especially difficult, and a measure of irrational self-talk derived from coding subjects’ responses to 10 hypothetical situations. No standard measures of social anxiety or irrational beliefs were included.

In this study there was no operational description of the RET treatment, no measure of the adequacy of the attention placebo treatment for equalizing any of the variables sometimes considered under the rubric of “placebo” factors, and no way of knowing how anxious or sensitive the subjects initially were.

Junior high school students \( n = 59 \) scoring 30 or above before treatment on the combined SAD and FNE were assigned to seven group sessions of either RET with part of each session devoted to REI, RET without REI, “relationship-oriented counseling” (group interactions focused primarily on the communication of feelings), or no treatment (Warren, Smith & Velten, 1984). Both RET treatments involved in-session role plays of how to handle difficult social situations, as well as homework assignments involving confrontation with fearful social situations.

Both RET groups were significantly better than the other conditions in reducing irrationality, and RET without REI significantly reduced social anxiety (FNE and SAD combined) from pretreatment to 3-week follow-up. There were no significant between-group differences in social anxiety at posttreatment or follow-up, though. Both RET groups improved upon the no-treatment control in terms of a sociometric measure, peer and teacher ratings of social anxiety.

DiLoreto (1971) conducted the only study reviewed here that showed RET to be inferior to another therapy for social anxiety, as well as the only one to find a strong interaction of a subject characteristic with type of treatment in determining outcome. Undergraduate volunteers \( n = 100 \) scoring above 50 on a homemade interpersonal anxiety scale and above 15 either way (introversion-extroversion) on the Myer-Briggs Type Indicator (Myers, 1962) (this eliminates one-fourth of Ss, so generalizability is somewhat reduced [Goldstein & Wolpe, 1971]) were assigned to nine weekly group meetings of (1) RET; (2) client-centered therapy; (3) SD; (4) a placebo treatment involving meetings with the author to discuss general concerns such as study skills; or (5) no treatment. Therapists were advocates of their respective approaches and were instructed to do what they normally would do with such clients; there was no detailed treatment manual as in some later studies. Dependent measures at posttreatment and 3-month follow-up included self-reports of interpersonal anxiety and generalized anxiety, as well as unobtrusive behavioral ratings of anxiety during an interaction in a group of subjects unfamiliar with each other and a self-monitored record of interpersonal contacts.

Posttreatment and follow-up results were equivalent. RET subjects did significantly better than all other groups as far as interpersonal contacts, but SD exceeded CCT and RET, which in turn did better than either control group, on all anxiety measures. SD had consistently good results across client personality type, whereas CCT equaled it and exceeded RET for extroverts, the converse for introverts. Before treatment, self-reported anxiety was higher among introverts, behaviorally rated anxiety higher among extroverts, implying that research using self-reported anxiety as the sole screening criterion (most common practice) overrepresents introverts among the socially anxious sample. Given the outcome data, this suggests that RET effectiveness would be overstated by most outcome studies if this personality-type-treatment interaction proved to be robust (e.g., in clinical samples).

The report of this study was in many ways exemplary and included some of the types of data not often reported: (1) Process measures of CCT and RET showed that depth of client self-exploration mirrored outcome data (e.g., RET prompted deeper exploration among introverts). (2) One RET therapist was significantly more effective than the other. This seemed to
be associated with greater experience, which is noteworthy given that most outcome studies use very inexperienced therapists (Parloff, 1984). (3) Ratings of session tapes confirmed numerous differences between RET and CCT therapist behaviors (e.g., RET involved more confrontation, information, advice, and homework, CCT more reflection, clarification, and self-disclosure).

There was no measure of client expectancies or the like, and the placebo may well have been uninspiring, but at least RET’s superiority to no treatment, albeit comparative ineffectiveness, seems to be evident in these results.

Emmelkamp and his associates completed two studies testing in vivo exposure, self-instructional training, and RET for social anxiety (Emmelkamp, Mersch, & Vissia, 1985; Emmelkamp, Mersch, Vissia, & Van der Helm, 1985). The first (Emmelkamp, Mersch, Vissia, & Van der Helm, 1985) involved 34 subjects meeting DSM-III criteria for social phobia. Treatments were six 21/2 hr group sessions. SIT and RET did not involve behavioral exposure tasks. Exposure treatment included in-session (e.g., speaking to the group) as well as in vivo (e.g., talking to a stranger) assignments.

All treatments improved self-reports of social anxiety, general symptoms (SCL-90), and phobic anxiety in five relevant situations. Only the cognitive treatments lowered IBT scores, while exposure exceeded the cognitive treatments at lowering pulse rate prior to and following an interaction with a confederate. At 1-month follow-up, the combined cognitive treatments were significantly superior to exposure on the IBT, and at both posttreatment and follow-up RET was superior to SIT on self-reported phobic anxiety. Otherwise the treatment conditions were equivalent. A strength of this study was the use of a fully clinical sample, though it is not clear how the diagnoses were made. Also, no overt behavioral assessment data were reported.

Emmelkamp, Mersch, and Vissia (1985) applied the same treatments and dependent measures with socially anxious “analogue” subjects recruited either via newspaper ads (n = 17) or for scoring more than one standard deviation above the mean on the social anxiety scale of the Fear Survey Schedule (n = 18). Again, all treatments were generally effective, albeit on fewer of the measures in the case of SIT. Exposure was nonsignificantly different on all measures from the combined cognitive therapies at posttreatment and follow-up. RET exceeded SIT on reduction of irrational beliefs at posttreatment and phobic anxiety self-reports at posttreatment and follow-up.

The two recruitment methods were not associated with differential results, nor did results differ significantly from those with social phobics in the first study. However, the analogue samples were more severely anxious than in many studies, so it is not certain that generalization across studies is safe in social anxiety RET outcome research.

Finally, DiGiuseppe, Sutton-Simon, McGowen, and Gardner (in press) completed a study of social anxiety treatment with RET, cognitive therapy, SIT, interpersonal cognitive problem solving, behavioral assertion training, or a wait-list control group. Groups met weekly for ten 90-min sessions. All active treatment groups lowered self-reported social anxiety (SAD, FNE) and behaviorally rated social anxiety in an interaction with an opposite-sex person, more so than did no treatment, but there were not significant differences across active treatment groups. None of the treatments affected pulse rates during the social interaction. In general, the same pattern (all treatments superior to control, nonsignificant between-treatment differences) held for self-report generalization measures of anxiety (SRIA, MAACL-A) and depression (MAACL-D).

Some limitations to the conclusion of equivalent effectiveness across cognitive therapies and behavioral assertion training for social anxiety include no formal data indicating differences among the treatments, which are in some ways similar, as implemented. Nor was there any indication that the treatments as implemented conformed to expert stipulations for each type of treatment (Beck et al.’s [1979] depression treatment manual, for instance, is the reference on the CT condition, so it is not obvious how CT was adapted to social anxiety). The nature of homework assignments is unclear; no follow-up data were reported, and substantial dropout (22 of 79 overall) was ignored in data analyses.

Summary. SRR seems to be superior to no treatment in reducing self-reported social anxiety and general anxiety, as well as self-rated state anxiety and negative thoughts during interactions. One study found that it led to increased interpersonal activity as well (Shahar & Merbaum, 1981). For reducing self-reported social anxiety, it seems to be at least as effective as self-control desensitization, perhaps more so than standard systematic desensitization. SRR seems to have less impact on overt behavioral and physiological indices of social anxiety. Attempts to enhance its effectiveness by adding SCD or to predict differential response to SRR and SCD have been fairly unsuccessful.

RET seems better than no treatment for self-reported and behaviorally rated social anxiety, less useful for physiologically measured anxiety. RET has exceeded groups called “placebo” on self-report and behavioral measures (DiLoreto, 1971; Yu & Schill, 1976), but it is not certain that the placebo treatments were effective controls. Relative to comparison treatments, RET seemed less effective than systematic desensitization in
one study but generally equivalent to client-centered therapy, exposure, and several cognitive-behavioral treatments. Exceptions include one finding of less effectiveness than exposure on pulse rate, a replicated finding of superiority to SIT on self-rated phobic anxiety, and superiority to SD and CCT in increasing interpersonal activity. DiLoreto (1971) found RET more helpful for introverts, a potentially useful piece of information that has not been followed up in subsequent studies using more fully clinical samples (e.g., Emmelkamp, Mersch, Vissia, & Van der Helm, 1985).

Agoraphobia

The cognitive techniques associated with RET, stripped of behavioral homework assignments often used clinically, have fared relatively poorly in the treatment of agoraphobia in a series of studies conducted by Emmelkamp and his co-workers.

Emmelkamp et al. (1978) compared in vivo exposure to difficult situations with a cognitive package including SIT and disputation of irrational beliefs considered relevant to agoraphobia. Treatments were conducted in five 2-hour group sessions in the course of just a week, and a crossover design was used such that each subject received both treatments. Combining across first and second treatments, exposure was superior at increasing the amount of time the average client could stay out alone walking a standardized test route and at reducing anxiety and avoidance (as rated by both the client and an observer) in agoraphobic situations. One-month follow-up suggested that overall treatment effects were maintained; differential effects of treatments could not be evaluated at follow-up, as all subjects had received both treatments.

Emmelkamp et al. (1978) noted several possible interpretations of the above results, which were much less favorable to a cognitive approach than most subclinical anxiety studies: (1) Relative to student analogues, agoraphobic patients may have a greater component of physiological reactivity, which might not be ameliorated by the verbal cognitive treatment. (2) A combined cognitive treatment (RET and SIT) may need more time than one week to take effect. (3) Even if the cognitive component alone is inferior to in vivo exposure, a cognitive-behavioral package might be preferable to exposure alone.

Some of these possibilities were tested by a study (n = 27) of the cognitive treatment noted above, exposure (as above), and a cognitive-behavioral treatment featuring in vivo exposure and SIT (Emmelkamp & Mersch, 1982). Treatment involved eight 2-hour group sessions. At post-treatment the RET and SIT condition appeared to have less impact on behavioral measures than did the groups receiving in vivo exposure. By 1-month follow-up, though, the cognitive group had continued to improve while the exposure-only group relapsed somewhat. No between-group differences were significant, except that the cognitive treatment exceeded exposure alone in improving self-reported assertiveness.

The cognitive treatment in Emmelkamp and Mersch (1982) had focused more on insight into irrational beliefs than on rehearsal of adaptive self-instructions. That this seemed more successful than the more equal combination of the two in the 1978 study, as well as the finding that SIT added nothing to the effectiveness of exposure in the 1982 study, prompted a direct comparison of SIT and RET as separate treatments (Emmelkamp, Brilman, Kuiper, & Mersch, 1986). Exposure was again included as the third treatment, this time with explicit instruction to practice in vivo exposure as homework between sessions. Treatments consisted of six 2-hour group sessions in 3 weeks, and subjects were 43 agoraphobics by DSM-III criteria.

Although all treatments showed significant within-group improvement on target symptom and generalization (SCL-90) measures, only RET achieved significant reduction of irrational thinking as measured by the IBT. Exposure was significantly better than the cognitive treatments at increasing the number of steps along a standardized walk which subjects could complete, as well as therapist and observer-rated anxiety and avoidance behavior. Anxiety and avoidance differences were maintained through 1-month follow-up. Subsequent exposure treatment effected further improvement on self-reported and behaviorally assessed agoraphobia measures among subjects who had received RET as a first treatment.

A clinical rating scale based on the extent to which subjects lowered their average (9-point scales) ratings for phobic anxiety and avoidance in difficult situations showed that RET failed (less than 2 points change) for 11 of 15 subjects as a first treatment, with only 1 subject being much improved (over 4 points average change). By comparison, SIT was a failure for 6 of 14 and exposure for 4 of 14. Five of 14 exposure subjects were much improved.

Summary. As a cognitive-only treatment, RET appears to be inferior to in vivo exposure in reducing anxiety and avoidance behavior among people with agoraphobia, especially when the exposure treatment includes self-directed exposure as homework. An integrated cognitive-behavioral (simultaneously) version of RET remains to be tested, but as yet there is no evidence that rational-emotive analyses add anything to in vivo exposure. This may be because live confrontation with feared situations is the optimal way to change cognitions about them, rather than using
office discussions for this purpose (Emmelkamp et al., 1978). Whether adding RET to exposure treatment leads to better maintenance of gains remains to be studied.

**Simple Phobia**

SRR has fared poorly as a treatment for simple phobias. In a single-case experimental design (multiple baseline across subjects), SRR was tested against therapist-assisted *in vivo* exposure for scriptophobia subjects (n = 3; Biran, Augusto, & Wilson, 1981). Each phase of treatment consisted of five individual 90-minute sessions, two subjects receiving SRR before exposure, the third exposure only. On a 13-task Behavioral Approach Test (highest item on hierarchy being to open a new savings account at a bank), baseline phases and SRR phases had no impact, whereas exposure sessions effected maximal performance, which was maintained by all three subjects through 9-month follow-up and seemed to generalize to naturalistic settings; for instance, two of the subjects obtained full-time employment, the other volunteer work. Subjective fear during behavioral performance, though, tended to return after treatment to prior levels, and more general emotional adjustment measures (e.g., of social anxiety, depression, marital satisfaction, assertiveness) were for the most part not altered by treatment.

Thus, *in vivo* exposure had a strong and lasting effect on behavioral performance, less impact on subjective fear or more general measures than the target phobia, and preceding it with SRR did not help. The authors speculated that the SRR sessions may have been too brief to generate cognitive change (not measured here) or may have focused too narrowly on the phobia, rather than a general overconcern about social evaluation that might underlie fear of writing in public.

Guided exposure treatment proved more effective than SRR combined with some elements of Meichenbaum's self-instructional training for clients (n = 22) suffering from various simple phobias (DSM-III diagnoses—fears of heights, elevators, or darkness) (Biran & Wilson, 1981). Exposure was more effective in improving Behavioral Approach Test performance; 9 of 11 clients achieved maximal performance on their hierarchies, compared to 1 of 11 in the SRR group. Exposure also improved subjective fear during the behavioral test, self-efficacy expectations for completing the test, maximum heart rate, and skin potential amplitude during phobic imagery, more so than did SRR. SRR subjects showed significant improvement in irrational thinking (IBT), depressive symptoms (Beck Depression Inventory, BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and social anxiety (FNE), unlike exposure subjects, suggesting the possible utility of combining treatment of the focal phobia with *in vivo* exposure and treatment of more general social concerns with cognitive methods.

Effects of exposure treatment were maintained through 6-month follow-up. SRR subjects were offered exposure treatment after 1-month follow-up if they had not achieved maximal BAT performance, and of the seven who accepted, six achieved maximal performance after the exposure sessions.

Confidence in the meaning of these comparative results was strengthened by (1) nonsignificant differences between exposure and SRR in treatment credibility and client expectations of success after the first session, and (2) indications from clients’ homework sheets that all exposure subjects practiced confronting the feared stimuli in real life whereas only 2 of 11 SRR subjects did, the latter practicing (per instructions) rational reevaluation of anxiety reactions they noted.

**Summary.** SRR appears to be less effective than *in vivo* exposure in treating subjective, behavioral, and physiological indices of fear associated with simple phobia. It may have a place as a supplementary treatment to address general social anxiety.

**Obsessions**

Neuman (1985) reported on therapy for six clients who sought treatment at an outpatient clinic for intrusive unpleasant obsessive thoughts, regardless of whether they had full Obsessive-Compulsive Disorder. Clients received weekly individual sessions of RET (focusing largely on obsessive tendency to get upset about having obsessions, think that one must not have them, etc.), thought stopping, and exposure in imagery. Each phase of treatment lasted at least 4 weeks, until either termination due to successful resolution (elimination of obsessions, or at least 90% reduction in the duration of obsessions from previous week, maintained for 2 consecutive weeks) or a phase switch due to reaching a plateau (<20% reduction from one week to the next in duration of obsessions).

Response to treatment varied. The two clients who received RET first improved sufficiently that no other treatment was needed. It would be misleading to conclude superiority of RET to the other treatments on this basis, though; one of the clients had relatively mild symptoms to begin with, and the other showed a substantial decrease in obsessions during baseline, just before the introduction of treatment, so that improvement could not be clearly attributed to the intervention (Kazdin, 1982). Three other clients were helped very little by any of the treatments. Finally, one improved some with exposure in imagery and then continued to improve with RET until being considered a treatment success.
Overall, change scores from the previous phase suggested slight increase in frequency, decrease in duration and intensity of obsessions with RET, slightly better results on each dimension with exposure, and worsening of duration and intensity, reduction in frequency during thought stopping. RET was more helpful than the other phases in terms of improving self and collateral-reported social adjustment (interference of obsessions in daily functioning), social anxiety (SAD), and especially depression (BDI and therapist-rated Hamilton scale).

It should be noted that 9 of 15 subjects were not included in data analyses, having either dropped out or been eliminated (e.g., for excessive noncompliance), so generalizability is uncertain.

Summary. Effectiveness of RET (relative to no treatment) for treating obsessions could not be established by this study, given its design. But it would seem that for relatively less severe obsessions RET may be an appropriate treatment. It may be especially useful as an adjunctive treatment in that it seemed to reduce depression and functional problems around the obsessions, more so than the obsessions themselves.

Assertiveness

Rational-emotive approaches have shown effectiveness in the treatment of unassertiveness, but it is not clear that they add anything to standard behavioral approaches to assertion training.

Alden, Safran, and Weideman (1978) compared a six-session behavioral skills training program, involving modeling and rehearsal of assertive responses and self-monitoring of in vivo practice as homework, a cognitive-behavioral treatment incorporating both RET and SIT techniques, and no treatment with subjects \( n = 27 \) seeking assertion training. The two active treatments were equivalent on all measures, both significantly exceeding the control group at posttreatment on irrational beliefs (homemade measure), a self-report measure of assertion, global behavioral ratings of assertiveness and anxiety from role plays, as well as two of five (facial expression, body expression) specific assertiveness dimensions.

Likewise, Hammen, Jacobs, Mayol, and Cochran (1980) found that incorporation of rational-emotive and self-instructional techniques did not improve upon the results of an 8-week skill-training program for assertion, though both conditions exceeded no treatment. Subjects \( n = 55 \) scored below zero on the Rathus Assertiveness Schedule (RAS) before treatment and were screened in interviews for having significant assertion problems. At posttreatment (and through 4-week follow-up on self-report measures and Goal Attainment Scaling) the active treatments equaled each other and outperformed no treatment on self-reports of assertion, social anxiety (FNE, nonsignificant trend on SAD), and dysfunctional attitudes (DAS), as well as global behaviorally rated assertive content; nonverbal assertion dimensions were less clearly responsive to treatment.

A median split on pretreatment DAS scores, creating groups with high-versus-low levels of dysfunctional attitudes, predicted response to treatment, with low-DAS subjects generally doing better, but there were no significant interactions of DAS status with type of treatment. Outcome also did not significantly differ for subjects who were in therapy at the start of the study, suggesting that the common practice of excluding such subjects may not affect conclusions about the efficacy of treatments for unassertiveness.

Cognitive aspects of RET, behavioral assertion training, and the combination of the two were compared to no treatment or an unstructured discussion group with nondistressed college student subjects \( n = 51 \) (Tiegerman & Kassinove, 1977). The RET alone group did not reduce social anxiety (FNE, SAD) significantly more than did the control groups; treatments including behavioral assertion training did so only on the SAD. All active treatments increased self-reported assertiveness (College Self-Expression Scale) more than did controls.

Thus, there was no advantage of combining cognitive and behavioral components of assertion training here. As in most components studies, the number of sessions and amount of time in treatment was the same in the combined conditions as in the component treatments, rather than increasing the time to allow for equal treatment of each element as in the other groups. This prevents finding superior effectiveness of combined treatments solely because of additional therapist time, but it may result in inferior application of each component and therefore not exploit the full potential of an integrated treatment (Kendall & Norton-Ford, 1982). Process measures (behavioral skill, cognitions targeted by the cognitive-only condition) could have provided a check on this possibility.

A very similar study (LeVine Welsh, 1982) found no significant impact at posttreatment or 5-week follow-up on self-reported assertiveness of RET, behavioral assertion training, or a combination, relative to no treatment. Posttreatment behavioral observations, however, suggested significantly improved assertion on the part of the behavioral and combined treatment groups, not the RET group. Subjects were women who had signed up for noncredit community college assertion workshops. The treatment was only 5 weekly group sessions, which may have contributed to the failure of RET alone to show some benefits.

An even briefer program (two sessions) combining disputation of irrational beliefs with behavioral assertion training failed to add to the
effectiveness of the behavioral treatment alone (Wolfe & Fodor, 1977) on any measure with women \( (n = 64) \) who had responded to assertion training notices at an outpatient clinic. Both were superior to a consciousness-raising discussion group and to no treatment for improving assertive content on a role play assessment. Paralinguistic assertiveness cues in the role play were improved more by the behavioral treatment than by consciousness raising, with all three active treatments superior to no treatment. Self-reports of assertiveness and social anxiety did not significantly differ across groups, though the combined treatment reduced state anxiety during assertion role plays.

Linehan, Goldfried, and Goldfried (1979) compared SRR with behavior rehearsal, a combination of the two, a nondirective control, or no treatment for women \( (n = 79) \) scoring below zero on the RAS before treatment. Treatment was conducted individually over eight weekly sessions. All treatments significantly increased self-reported assertion (RAS; homemade Assertion Difficulty Inventory, ADI) and reduced anxiety (SRIA) through posttreatment and 8-10 week follow-up. The combined BR/SRR group exceeded the nondirective group on the ADI and the no-treatment control on all self-reports, while SRR exceeded no treatment on all but the RAS, BR only on the ADI. There were no significant between-group differences among the cognitive and behavioral treatments on self-reports. Behavioral role-play tests showed no significant advantage of adding SRR to BR; both were superior to the other three groups on assertive content. An in vivo test showed both BR groups to be superior to both control groups.

All three cognitive and behavioral groups exceeded both controls on peer informant reports that the subject was easier to get along with (44% [11% said she was harder to get along with] vs. 17% [14% said harder]). This sort of information seems valuable in ensuring that assertion principles are carrying over into real life and are being implemented in a nonabrasive, rights-respecting fashion by the subject.

Finally, Carmody (1978) reported the only comparison of RET to another cognitive treatment, SIT, for unassertiveness. Both treatments included behavior rehearsal, and a behavioral-assertion training group and no-treatment controls were also included. Subjects \( (n = 56 \) completers) were not in treatment and had responded to recruiting advertisements. The active treatments outdid controls only on improvement of Self-Assertion Scale scores, not RAS, SAD, FNE, or behaviorally assessed role plays, though only the active treatments showed within-group improvement. RET exceeded SIT and control at posttreatment on an in vivo refusal test. There were no significant group differences at 3-month follow-up.

**Summary.** The cognitive aspects of RET alone may improve self-reported assertion, though this did not generalize to reduction of social anxiety

(Tiegerman & Kassinove, 1977). SRR as a cognitive-only treatment led to improvement on self-reported assertion, social anxiety, and informant reports of ease of getting along with the subject, though behaviorally assessed anxiety increased more if specific behavioral training was added (Linehan et al., 1979). When behavioral assertion-training components are incorporated (e.g., behavior rehearsal, modeling), both RET and SRR usually appear to be helpful. Evidence from community and clinical samples suggests that this impact is greater than that of nondirective or consciousness-raising discussion groups (Linehan et al., 1979; Wolfe & Fodor, 1977). Behavioral tests respond more consistently than do self-reports.

Across varying follow-up intervals (0 to 3 months), recruitment methods (students to fully clinical samples), dependent measures (self-reports, behavioral observations, peer reports), and treatment formats (individual or group, 2 to 12 sessions), there seems consistently to be no significant advantage to adding RET or SRR cognitive techniques to standard behavioral-assertion training therapies. The possibility that adding cognitive components would be especially helpful for a subset of clients has been tested only once, with a negative result (Hammen et al., 1980).

### Headaches

RET did not add to the utility of a 10-session program of digit temperature biofeedback for treatment of migraine headaches (Lake, Rainey, & Papsdorf, 1979). Reduction in daily average headache activity from baseline to 3-month follow-up showed no significant differences among EMG biofeedback, a self-monitoring control group, and digit temperature biofeedback with or without RET. Small samples \( (n = 6 \) per group) limited the power of this study to detect group differences, however.

Considering 33% reduction from baseline to be a clinically significant response, the EMG biofeedback group \( (6/6 \) responding) was significantly superior to control \( (1/6) \), with digit temperature biofeedback with \( (2/6) \) or without \( (4/6) \) RET nonsignificantly different from control. As the authors acknowledged, three 30-40 min sessions of RET-oriented discussion added on to biofeedback sessions do not provide an adequate test of the utility of RET for this population. Perhaps the most notable finding, then, was that IBT scores declined significantly after treatment and equally across groups; irrational beliefs were not preferentially affected by RET.

RET showed better results, evaluated as a sole treatment, with muscle contraction or “tension” headache (Finn & DiGiuseppe, in press). A group RET program incorporating REI and rational role reversal was compared to progressive muscle relaxation training (Bernstein & Borkovec, 1973), an insight-oriented headache discussion group, and a control self-monitoring group.
9. Outcome Studies of Rational-Emotive Therapy

RET and relaxation training had similar effects: Both failed to significantly reduce average duration of headaches; both reduced average headache severity, but these improvements did not last through 2-month follow-up; both reduced headache frequency and increased the proportion of headache-free days, significantly outperforming the other groups on these measures. Collateral reports of the subjects’ improvement corroborated self-ratings. Resting frontalis EMG, on the other hand, showed no treatment effects for any group.

The above results concerned completers of the program; 13 of 48 original subjects dropped out. Considering all subjects, for both RET and progressive relaxation, one-third dropped out, about one-third showed clinically significant reduction in headache measures from pretreatment to follow-up (defined here as 50% reduction), and one-third completed but did not respond successfully. No information on prediction of response to either treatment was available, which would facilitate decision-making regarding when to prefer RET to a standard treatment such as relaxation or biofeedback training.

**Summary.** RET showed no effectiveness in the treatment of migraine headaches (Lake et al., 1979), but it has been tested only as a brief adjunct to biofeedback training. By itself, it appeared to be as effective as progressive muscle relaxation training in reducing frequency of tension headaches, achieving substantial benefits for about one-third of subjects (Finn & DiGiuseppe, in press).

**Stuttering**

Stuttering patients (n = 20) from a speech and hearing department were assigned to one of five conditions: (1) RET with *in vivo* tasks (telephone calls to significant acquaintances and conversations with relative strangers), (2) RET without *in vivo* tasks, (3) systematic desensitization with *in vivo* tasks, (4) Systematic desensitization without *in vivo* tasks, or (5) no treatment (Moleski & Tosi, 1976). Treatments involved eight individual sessions. Expert raters deemed each therapist to be adhering to the intended treatments, based on session audiotapes.

Dependent variables included self-reports of anxiety and attitudes toward stuttering, as well as both the rate of speaking and proportion of disfluencies on two speaking tasks. Analyses of variance on pre-post change scores for each dependent variable suggested that RET was superior (nonsignificant trends) to SD in reducing disfluencies on both behavioral tasks. On one measure of disfluencies, *in vivo* assignments were significantly beneficial. From posttreatment to 1-month follow-up, RET was significantly superior to SD in reducing anxiety and marginally more useful for reducing disfluencies on one measure.

The authors concluded from these findings that RET had generally outperformed SD for treatment of stuttering. Atkinson (1983), however, reviewed this study from a statistical point of view and showed that the above findings, as well as some significant findings from multiple comparisons of individual group means not cited above, could well be Type I errors, given the extremely liberal approach to hypothesis testing taken in analyzing the data.

**Summary.** One study suggested that RET might be valuable in the treatment of stuttering, though its standing compared to systematic desensitization was obscured by the statistical methods used.

**Psychosexual Dysfunctions**

A 12-session group RET treatment did not appear to be very helpful for secondary erectile failure relative to no treatment (Munjack et al., 1984). Subjects were heterosexual men (n = 16) who for at least 6 months had been achieving satisfactory erections no more than 25% of the time but who did not have any organic pathology accounting for the problem.

RET subjects reported more successful attempts at intercourse during treatment (M = 7.6 vs. 0.25), but there appeared to be considerable relapse after therapy ended. All seven treated subjects who were followed up by telephone 6 to 9 months later had declined from posttreatment in success rates, three of them to 0%, the others to 25 to 66%. These percentages were still higher than at pretreatment; without knowing absolute rates of attempts and successes it is not obvious whether subjects were having intercourse more often, unsuccessfully trying less often, or both. Neither group significantly lowered irrational beliefs, so perhaps RET could help with this problem but was delivered ineffectively here.

Everaerd and associates evaluated a small-group (about five each, with two therapists) treatment beginning with six sessions of RET, followed by nine sessions of sensate focus and masturbation training and about three sessions of social skills training (Everaerd et al., 1982). The group (n = 21 completers, 6 others having dropped out during treatment) was mixed with regard to sexual orientation and sexual dysfunction. Most subjects (18 of 21) had no regular partner, and all were men.
There was no control group included, the idea being that long-standing problems ($M = 6$ years, range 1.5 to 20 years) probably would not remit without treatment. Subjects showed increased self-reported sexual motivation (heterosexual subjects only), lowered social anxiety, and nearly complete elimination of masturbatory dysfunctions (15 of 18 clients with such problems rated as cured by clients’ overall evaluations). The impact on sexual performance with a partner was weaker: 8 of 21 were rated as cured, 5 as unchanged, and the remaining 8 had had no new experience with a partner and so could not report on changes in behavior. Two-month follow-ups indicated virtually the same results on sexual performance. Lack of a control group, process measures (e.g., irrational beliefs), data on frequency of satisfactory intercourse, assessments at the end of each treatment phase, or extended follow-up make it impossible to say if the more favorable results reported here contradict the data of Munjack et al. (1984). If they do, then various explanatory hypotheses (need for more extended treatment or more directive behavioral components such as masturbatory training, greater appropriateness of RET for the types of clients included in this study but not in Munjack et al., e.g., primary erectile dysfunctions, ejaculatory dysfunctions) could be explored.

Dekker, Dronkers, and Staffeleu (1985) reported on a new sample of 40 men going through their multicomponent treatment and replicated the findings of increased self-reported sexual motivation and decreased social anxiety. Again, the clients who experienced masturbatory dysfunction ($n = 20$) fared quite well as evaluated by their therapists (none got worse, 1 unchanged, 8 improved, and 11 cured). With respect to performance with a partner, 8 had had no new experiences to evaluate by the posttreatment report, while none seemed worse, 2 unchanged, 14 improved and 16 cured. There was again no control group and in this study no follow-up either.

A major emphasis in this report concerned prediction of response to treatment. As far as sexual motivation was concerned, those subjects with inhibited sexual desire before treatment seemed to fare worse. Reduction of social anxiety was greater among those who had been in a longer relationship with a partner and had had problems for a shorter period of time. Type of sexual dysfunction did not make any difference.

Finally, Everaerd and Dekker (1985) conducted the only comparative study of RET ($M = 18$ sessions) for sexual dysfunctions, evaluating it against an outpatient version of Masters and Johnson’s treatment, in a couples format. Fully half of the 32 couples in the study dropped out of treatment; they may have been less motivated, as these couples had reported better male sexual functioning and a shorter history of problems. Results for the RET group must be considered of questionable generalizability, given that only six couples finished treatment, and only three of these were available for follow-up interviews 6 to 12 months later. Sexual motivation increased at posttreatment and follow-up only among men, while both men and women reported improved relationship satisfaction immediately after treatment but not at follow-up. At posttreatment, four of the six RET couples were judged as cured, one other as improved. There were no significant group differences in outcome, though of course larger samples might alter this conclusion.

**Summary.** RET seems best regarded as unproven in the treatment of sexual dysfunctions. Uncontrolled studies have suggested some effectiveness, especially for masturbatory dysfunctions, of a treatment package including RET but also other sex therapy components (Dekker et al., 1985; Everaerd et al., 1982). RET alone has shown only short-lived effects for men with secondary erectile dysfunction (Munjack et al., 1984) and a very high attrition rate in couples treatment (Everaerd & Dekker, 1985).

### Type A Behavior Patterns

The Type A Behavior Pattern (TABP; Friedman & Rosenman, 1974) includes excessive competitiveness, aggressiveness, and a chronic sense of time urgency. Although recent data have been equivocal (McLellarn, Bornstein, & Carmody, 1986), TABP has generally been accepted as an independent risk factor for coronary heart disease (CHD; The Review Panel on Coronary-Prone Behavior and Coronary Heart Disease, 1981).

Jenni and Wollersheim (1979) designed an RET program for TABP. Like the Anxiety Management Training (Suinn, 1974) package to which it was compared, RET lowered trait anxiety through 6-week follow-up but did not reduce cholesterol or resting blood pressure. Bortner Type A scores were reduced, but the clinical significance of this reduction was obscured by the use of a different scoring system from the one used in developing the measure (Bortner, 1969) and in validating it as a predictor of CHD (French-Belgian Collaborative Group, 1982).

Thurman (1983) found RET significantly superior to no treatment in reducing TABP and irrationality among college student Type A’s (10 or higher on Jenkins Activity Survey [JAS; Jenkins, Zyzanski, & Rosenman, 1971]). Two-month follow-up evaluations of the treated group revealed maintenance of gains. Thurman (1984) subsequently developed a Type A-specific irrational beliefs questionnaire to measure beliefs (e.g., “faster is always better,” p. 360) that may be more specific to TABP and hence even more sensitive to TABP change than are general measures such as the IBT. The complexity of cognitive assessment is illustrated by Thurman’s

---

¹This section is based on Haaga (1987).
(1984) acknowledgment that “Although many Type A’s might not assent verbally to holding these (irrational) beliefs, they clearly seem to be acting on them in their day-to-day lives” (p. 360).

Later, Thurman (1985a) added to RET some features of Novaco’s (1979) anger control treatment for university faculty scoring above the 60th percentile on the JAS. One comparison treatment added two sessions of assertiveness training as described by Lange and Jakubowski (1976). A third, minimal treatment group received information regarding TABP in one session. On the composite JAS Type A score, Type A (but not general) irrational beliefs, the Bortner A scale, trait anger, and hostility self-reports, both cognitive-behavioral groups improved more than did the minimal treatment group, equaling each other. Collateral reports for both treatment groups showed effects on TABP but not on trait anger. Treatments failed to lower blood pressure reactivity. Assertiveness training did not improve the cognitive-behavioral intervention.

Follow-up assessments showed that equality of RET groups and their superiority to minimal treatment were maintained one year after treatment on the JAS Type A composite score, Type A irrational beliefs, and manifest hostility (Thurman, 1985b). JAS speed and impatience factor scores also showed significant group differences favoring RET groups at follow-up.

Summary. RET appears to reduce self-reported TABP and irrational beliefs, perhaps especially Type A-specific beliefs. Collateral reports confirmed TABP reduction in one study (Thurman, 1985a), and the impact exceeded that of a minimal educational intervention. No effects of RET on physiological measures have been documented, though the conceptual status of physiological reactivity as a dependent measure in TABP treatment research has been questioned recently (Roskies et al., 1986). Neither is there yet any convincing evidence of superiority to other psychotherapies for TABP nor any evidence of effectiveness of RET for postcardiac Type A patients. In terms of healthy Type A people, the most important next steps for RET research would seem to be (1) documenting treatment effects on Structured Interview assessments of TABP, the measure most strongly associated with CHD (Rosenman et al., 1975); and (2) showing prevention of CHD by way of TABP reduction, which has not yet been documented for any psychological intervention (Haaga, 1987).

Anger

Thurman’s (1985a) finding of posttreatment reductions in self-reported anger could not be unambiguously attributed to RET, as elements of Novaco’s anger-control treatment had been incorporated. However, Conoley, Conoley, McConnell, and Kimzey (1983) conducted an analogue study of RET for anger reduction. Undergraduate women (n = 61) wrote down five recent anger-arousing events and recalled them, as a way to induce anger in the laboratory. They then discussed the situation they considered the worst for 20 minutes with a counselor, this discussion including either (1) a gestalt empty-chair exercise; (2) an ABC analysis as might be employed in RET; or (3) a control condition involving reflective listening by the therapist. The two active treatments were equally effective, significantly more so than was the control condition, in terms of self-reported anger after the discussion as well as reduction of systolic blood pressure.

Repression-sensitization, measured with a subscale of the MMPI, did not interact with treatment effectiveness in reducing anger. It had been hypothesized that the ABC analysis would be more helpful to repressors, who are thought to use cognitive control of emotions more frequently.

Future process studies of this type might do well to include at least a crude measure of the degree to which the subject reduces his or her faith in whatever irrational belief is attacked in the ABC analysis (Teasdale & Fennell, 1982). A high correlation between reduction in agreement with the IB and reduction in anger would be consistent with the notion that the RET intervention worked in accordance with RET theory.

Summary. Conoley et al.’s (1983) analogue experiment suggested that RET may contribute to reduction of excessive anger.

Obesity

Block (1980) compared RET to relaxation training with discussion of weight problems and to no treatment for overweight clients (n = 40). Treatment groups met for 10 weekly sessions and were led by one of two eclectic therapists who were told to expect that both therapies would be effective; therapists were monitored via audiotapes to ensure fidelity to each type of treatment.

RET was significantly more effective, based on reduction in number of pounds overweight (according to standard tables), than the relaxation/discussion group or no treatment. RET subjects were an average of 25 pounds overweight before treatment, 16 after treatment, and 6 at 18-week follow-up. Subjects in the other groups remained at least 20 pounds overweight before treatment, 16 after treatment, and 6 at 18-week follow-up. Subjects in the other groups remained at least 20 pounds overweight, on average, throughout the study. There were no dropouts, suggesting that the treatment was acceptable to clients, and the efficiency of treatment, though not measured (e.g., as dollars of cost per pound lost)
would seem to have been good (10 hours of therapist contact for eight people to lose an average of 19 pounds each from pretreatment to follow-up).

Summary. Block’s study would suggest that RET could be very promising as a weight control treatment, particularly in light of the continued weight loss after treatment. Future studies might wish to add more thorough assessments to get a clearer picture of the generality and consistency of RET’s effectiveness in this area. Possibilities include (1) reporting a weight reduction index that takes into account initial weight as well as pounds lost and initial overweight; (2) body fat percentage changes; (3) health side effects (e.g., blood pressure); (4) emotional side effects of weight reduction; (5) measures of homework compliance and the relationship of compliance to clinical outcome; (6) an indication of the variability of response, for instance the percentage of clients reaching their weight goals, percentage who gained weight, or who made no improvement (Wilson, 1978); (7) measures of client expectancies, to bolster the conclusion that RET was significantly superior to a placebo treatment.

Depression

RET and social problem solving (D’Zurilla & Goldfried, 1971) equaled each other and were superior to no treatment in reducing depressive symptoms among people \( n = 43 \) who had been separated or divorced an average of 10 months previously (Malouff, 1984). Subjects were selected for scoring 10 or above on the BDI, which probably yielded a diagnostically heterogeneous sample rather than a group of subjects with depressive disorders (Carson, 1986; Deardorff & Funabiki, 1985). Nevertheless, the relatively brief (4-week) group treatments seemed to achieve substantial reductions of self-reported depressive symptoms (BDI average declined from 20.1 to 7.3 in the RET group, 6.8 at 1-month follow-up, compared to 21.1, 10.0, and 8.1, respectively, in the SPS group), a change which was paralleled by collateral reports of the subjects’ affect.

L. M. Kelly (1982) compared 6-week group treatments of RET, a behavioral treatment based on Lewinsohn’s (1975) theory of depression and featuring assertion training and activity scheduling, and a supportive treatment whose discussion topics were left up to group members. Subjects \( n = 20 \) completers were nonsuicidal, nonpsychotic, unipolar depressed patients (DSM-III diagnoses) who scored at least 15 on a pretreatment BDI.

Raters (not the clients themselves) considered therapist credibility and empathy and expectancy of success to be uniformly high in each treatment. Raters also attested to the content validity of the treatments, scoring at least 95% of the time from videotapes of sessions as “on task” for that treatment. However, the “specific” treatments did not appear to have differentially affected their target behaviors. None of the groups significantly reduced irrational beliefs or increased pleasant activities, and behavioral assessment based on 2-min role play conversation showed no overall social skill advantage for the behavioral group.

On both depression measures (BDI, checklist based on DSM-III criteria), all groups improved significantly from pre- to posttreatment, with no significant differences among groups. There was a trend toward RET being less effective than the other treatments (e.g., BDI declines from average to 24.3 to 16.0 vs. 24.6 to 10.6 for behavioral treatment and 26.4 to 7.4 for nondirective treatment). Small sample sizes make it difficult to know how much credence to place in the equivalence of results among the treatments represented in this study, and failure to alter the theoretically relevant target behaviors (pleasant activities, irrational beliefs) calls into question the adequacy of the treatments as delivered.

Both RET (entirely cognitive focus) and a behavioral treatment (activity scheduling only) significantly reduced depressive symptoms through 5-week follow-up in another comparison, though there were no significant group differences (P. Gardner & Oei, 1981). Subjects \( n = 16 \) had responded to advertisements but were not diagnosed. No control group was included, but the depression measures had been stable during 3 weeks of baseline measurement. Again sample size was small for detecting between-group differences, and in this study there was no assessment of the target behaviors addressed by each treatment.

Finally, adult women diagnosed with major affective disorder (SADS-RDC; Spitzer, Endicott, & Robins, 1978) and scoring at least 70 (scaled score) on the MMPI depression scale and at least 18 on the Depression Adjective Checklist (Lubin, 1967) but not currently in treatment for depression nor seriously suicidal were recruited for a study of RET and social skills training (McKnight, Nelson, Hayes, & Jarrett, 1984). An alternating treatments design with multiple baseline across subjects was used, each subject receiving four individual sessions of social skills training and four of RET.

Overall, treatment appeared to be consistently successful, to a clinically significant degree; eight of the nine subjects were diagnosed as nondepressed after treatment, and the average MMPI-D score was in the nondepressed range. Social skills and irrational beliefs, assessed with both self-report and role play measures, improved. Treatment effects maintained through 1-year follow-up: seven of the eight recontacted subjects were in the nondepressed range on MMPI-D and DACL self-reports, and no
subjects met pretreatment criteria for having problems with irrationality or social skills deficits.

The most interesting aspect of this study, though, concerned the role of pretreatment assessments in matching client and treatment, which has rarely been done successfully in RET research. Three subjects each were identified in advance of treatment as having particular difficulties with irrational beliefs, social skills deficits, or both. Session-by-session ratings suggested that for low-social-skill clients, social skills training was superior to RET in improving social skills and in reducing depression, whereas for highly irrational subjects RET was superior in reducing depression and irrational beliefs. For the “both” subgroup, RET was superior in reducing irrational beliefs, SST in improving social skills, and the two were equivalent in reducing self-reported depression.

These results indicated the utility of matching type of depression treatment to type of problem shown by the client before treatment, information which would have been obscured in a customary group analysis of the data. The treatments would have looked equivalent overall in reducing depressive symptoms, and no statements regarding rational treatment selection for depressed clients could have been made.

Summary. Fairly brief (4 to 8 week) programs of RET consistently reduce self-reported depressive symptoms, usually to the point that the average subject is in a nondepressed range after treatment. One study used interview-based diagnoses as a dependent measure, and this indicated that a combination of RET and social skills training led most subjects (seven of eight at 1-year follow-up) to no longer meet criteria for major affective disorder (McKnight et al., 1984). No evidence exists to support a general superiority of RET relative to any of the treatments to which it has been compared (social skills training, social problem solving, activity scheduling, nondirective discussions), but within-subject, session-by-session analyses suggested that it may be especially helpful to subjects high in irrational beliefs prior to treatment (McKnight et al., 1984).

Antisocial Behavior

G. S. Solomon and Ray (1984) devised an 8-hour group counseling treatment based on “RET principles” (details not spelled out much) for convicted first-time adult shoplifters. Participation was a mandatory condition of probation, so subjects may not have been especially motivated for treatment. The subjects showed normative IBT scores, but the authors’ impression was that they did subscribe to a particularized set of shoplifters’ irrational beliefs (e.g., the merchants deserve what they get, I must have an item I desire) and that treatment could proceed effectively by disputing these beliefs.

Only one of the 94 subjects shoplifted again within one year, and 97% reported having found the program helpful. Without a control or comparison group, however, it is difficult to evaluate the preventive impact of the treatment. Nonetheless, it seems clearly worthwhile to study further the utility of RET for such a significant social problem.

Block (1978) compared rational-emotive education (REE) to a psychodynamic human relations class and no treatment for underachieving, disruptive tenth and eleventh graders (n = 40). The interventions were conducted as daily classes, for course credit, and consisted of 47 sessions (there were no dropouts, and each subject attended at least 85% of classes). REE significantly outperformed the other treatments with respect to teacher-rated disruptive actions, class cuts, and grade point averages during the semester of treatment and the following semester. Grades remained fairly low, however, increasing from an average of 60 before the intervention to 69 during and 68 the following semester.

Summary. RET seems to hold promise in the treatment of antisocial behavior. Through one-semester follow-up, REE reduced disruptive behavior and slightly improved grades among underachieving high school students, more than did no treatment or an alternative psychodynamic intervention (Block, 1978). An uncontrolled pilot study suggested a possible impact of RET on recidivism among adult shoplifters as well (G. S. Solomon & Ray, 1984).

Summary of Evaluations

Rational-emotive education seems to have beneficial effects on clinically relevant self-report measures but has yet to show utility either in treating a core clinical dysfunction or in preventing psychopathology.

Systematic rational restructuring (SRR) has had its best results with test anxiety and self-reported social anxiety, possibly exceeding imaginal exposure-based treatments in these areas, which would imply that its effects derive from processes other than extinction alone. It also appears to be useful in assertiveness training, though there is not yet evidence that it adds to typical behavioral programs. It seems less useful than in vivo exposure for simple phobias, though in this area as in test anxiety it may reduce self-reported general social anxiety. Its relatively weaker impact on behavioral and psychophysiological indices of anxiety in most studies would suggest the possible utility of combining SRR with techniques aimed at these modalities, or of targeting a subgroup of subjects for whom
SRR would be especially appropriate, but little progress has been made in these areas.

RET has shown some effectiveness for mixed clinical samples, possibly exceeding relaxation training. It appears to reduce self-reports of perceived stress and general anxiety, though evidence of preventive impact of stress reduction or superiority in either area to alternative therapies is weak. RET seems to help speech anxiety as indexed by self-report, not behavioral observations, and may be inferior to other active treatments for reducing state anxiety prior to a speech. Test-anxiety results are more mixed, but there is at least some suggestion of improvement in all three major channels of anxiety responding. In the treatment of social anxiety, RET seems helpful on self-report and behavioral but not physiological measures, seems equivalent to several cognitive-behavioral and behavioral treatments, as well as client-centered therapy, but possibly worse than desensitization, at least with extroverts. RET appears to be inferior to exposure to agoraphobia and does not add to standard behavioral treatments for assertion or tension headaches. Preliminary evidence supports its utility for treating obsessions, stuttering, excessive anger, and antisocial behavior. It has helped people with sexual dysfunctions only when combined with behavioral sex therapy components in uncontrolled studies. RET has made a very promising start in the treatment of obesity and of the Type A Behavior Pattern, showing maintenance of effects superior to minimal treatments to TABP and relaxation training for obesity. More thorough evaluations of its effects in these areas are needed.

CONCLUDING REMARKS

This chapter has described numerous outcome studies of rational-emotive education, systematic rational restructuring, and rational-emotive therapy. Nevertheless, three decades after the initial empirical report on the effectiveness of RET (Ellis, 1957b), even fairly basic questions remain essentially unanswered. For example: (a) Is there any disorder or problem for which RET is a treatment of choice? (b) What proportion of patients achieve clinically significant improvement in RET? (c) What patient and therapist variables predict response to RET, and what predicts relapse after successful RET? (d) Is reduction in irrationality as defined by Ellis a necessary and sufficient condition for change in RET? Is this sort of cognitive change achieved more rapidly or to a greater degree when therapists adopt the forceful style advocated by Ellis rather than the gentler style characterizing SRR?

Research on cognitive therapy (CT) seems to be progressing more rapidly and in a more cumulative fashion than RET outcome research (Hollon & Beck, 1986). CT for depression appears to be at least as effective as standard pharmacotherapy in the short term (Beck, Hollon, Young, Bedrosian, & Budenz, 1985; Blackburn, Bishop, Glen, Whalley, & Christie, 1981; Murphy, Simons, Wetzel, & Lustman, 1984; Rush, Beck, Kovacs, & Hollon, 1977; Teasdale, Fennell, Hibbert, & Amyes, 1984), perhaps superior at preventing relapse (Blackburn, Eunson, & Bishop, 1986; Simons, Murphy, Levine, & Wetzel, 1986). Some information is available on patient variables (Simons, Lustman, Wetzel, & Murphy, 1985) and early process indicators (Fennell & Teasdale, 1987) predictive of favorable response to CT. Moreover, patterns of symptom change in clinical trials, as well as the impact of drug therapy on CT tailored cognitive assessments (Simons, Garfield, & Murphy, 1984) have prompted new theoretical speculations within the cognitive framework regarding maintenance and treatment of depression (Teasdale, 1985).

We have not seen much evidence that rational-emotive theories of the origin, maintenance, or treatment of various disorders are affected by outcome research. Much of the difficulty in conducting outcome research that would significantly advance the RET field undoubtedly relates to problems in assessing key constructs such as irrational beliefs (see Chapter 8, this volume). Improvements in assessment methodology would facilitate progress in outcome research. Application of recent advances in the general field of psychotherapy outcome research methodology would also enhance the informational yield of future RET studies.

As a result of space limitations for this chapter, we are preparing a separate paper to elaborate and rationalize our suggestions concerning strategies and tactics for RET outcome researchers, but a summary of these suggestions is listed here: (1) test RET as a standard, well-specified technology, using quantitative measures of treatment integrity, (2) use comparative research designs rather than no-treatment control designs, (3) conduct follow-up assessments to test the hypothesis that the philosophical shifts aimed for in RET promote more durable improvements in emotion and behavior than do interventions such as behavioral skill training, (4) study fully clinical samples, (5) report data on the incidence and prediction of attrition and negative outcomes, (6) use placebo controls only if specific questions about therapeutic mechanisms of action so indicate, (7) use cognitive assessment procedures to test RET theory and predict differential treatment response, (8) use additive designs when comparing RET to more strictly behavioral methods (rather than cognitive-alone vs behavioral-alone designs), (9) tailor RET methods and irrational beliefs assessments to the specifics of the target problem, as exemplified
by Thurman's (1985a, 1985b) research on treatment of the Type A Behavior Pattern.

The belief and hope are that the incorporation of conceptual and methodological advances will improve both the internal and external validity of RET and contribute to a more cumulative, empirically based discipline of psychotherapy.
References


| Epictetus. (1956). Enchiridion (G. Long, Trans.). South Bend, IN: Regenery-Gateway. (Original work undated.) |

References


Frank, J. D. (1985). Therapeutic components shared by all psychotherapies. In M. J. Mahoney & A. Freeman (Eds.), Cognition and psychotherapy (pp. 49-78). New York: Plenum.


References


