# Effectiveness of Group Cognitive-Behavioral Therapy for General Symptomatology:
## A Meta-Analysis

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*Outcome studies support the effectiveness of cognitive-behavioral approaches for treating various emotional and behavioral problems. The effectiveness of group cognitive-behavioral therapy (GCBT) has received less empirical attention. The current investigation employed meta-analytic procedures to examine various effects from a total of 22 published studies and 8 doctoral dissertations that used GCBT as a therapeutic intervention to reduce general symptomatology. A total of 134 effect sizes yielded an overall pre- to posttreatment weighted mean effect size of .77 for a wide range of symptomatology treated with GCBT. Twelve of the 30 studies included a no-treatment control group, and these studies yielded a weighted mean effect size of .13 when comparing pre- and posttreatment levels of symptomatology. Implications for group work practice and research are discussed.*

Over the past three decades, a number of cognitive-behavioral approaches to psychotherapy has been formulated and investigated in terms of effectiveness (Abramowitz, 1997; Chambless & Gillis, 1993; Dobson, 1989; Reinecke, Ryan, & DuBois, 1998; Scogin & McElreath, 1994). However, little empirical attention has been given to group cognitive-behavioral therapy (GCBT). Often, the focus of cognitive-behavioral therapy (CBT) within a group format has escaped deeper discussion in popular texts focusing on CBT interventions (Dobson, 1988; Freeman, Pretzer, Fleming, & Simon, 1990; McMullin, 1986) and has been ignored by others (Caballo, 1998; Dobson & Craig, 1996; Hawton, Salkovskis, Kirk, & Clark, 1989; Kendall & Hollon, 1979; Klosko & Sanderson, 1998). Similar to investigations that examined the effectiveness

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of individual CBT, it is important to examine GCBT. To reach a deeper understanding of the effectiveness of GCBT, particular attention must be given to the examination of GCBT interventions in the context of specific client populations and symptoms.

GCBT may be defined as therapy that uses the dynamics of the group format, in addition to common CBT techniques, to change distorted, maladaptive, and dysfunctional beliefs, interpretations, behaviors, and attitudes (Covi, Roth, Pattison, & Lipman, 1988; Hollon & Evans, 1983; Hollon & Shaw, 1979; Van Dam-Baggen & Kraaimaat, 2000). The GCBT therapist employs a clear understanding of the interaction between thoughts, feelings, and behaviors (Beck, 1976). The GCBT therapist also assumes that emotional conditions can be attributed to what people think, believe, and do and that life changes are brought about by changes in these three areas (Gazda, Ginter, & Horne, 2000). Automatic thought records, challenging thoughts, monitoring mood, developing an arousal hierarchy, monitoring activities, goal setting, problem-solving, Socratic questioning, relaxation, risk assessment, and relapse prevention are some of the most common interventions used in GCBT (for comprehensive reviews, see Covi et al., 1988; Hollon & Evans, 1983; Hollon & Shaw, 1979; Kahn, 1988; Rose 1989, 1993, 1998; Rose, Tolman, & Tallant, 1985; White, 2000b).

A core principle that separates GCBT from individual CBT is the social force of cohesiveness (the degree to which group members find themselves personally interested in relating to each other). Although group cohesiveness can only be afforded by the group, GCBT is like most cognitive-behavioral approaches in that it is task oriented and designed to seek problem resolution (White, 2000a).

Since Smith and Glass (1977) introduced meta-analysis as a strategy for psychotherapy outcome research, only two reported studies have employed meta-analytic procedures to specifically examine the effectiveness of GCBT. Dush, Hirt, and Schroeder (1983) found an effect size of .58 when GBCT was compared to a no-treatment control group and .36 when compared to a placebo control group. Miller and Berman (1983) used a similar methodology for studies using adolescent and adult participants and found an effect size of .79 when GCBT was compared to a no-treatment control group and .18 when compared to other treatments. Fuhriman and Burlingame (1994) and Wanous, Sullivan, and Malinak (1989) pointed out that such meta-analytic findings have often contradicted earlier individual studies.

However, an updated quantitative review of the effectiveness of GCBT in reducing clinical symptomatology is warranted for three primary reasons: (a) Earlier meta-analytic studies have employed construct measures that have escaped empirical validation or eliminated

unpublished work from examination (Rosenthal & DiMatteo, 2001); (b) conceptualizations, understandings, and use of GCBT interventions have expanded over the past decade; and (c) more psychometrically sound instruments have been developed to measure clinical symptomatology since Dush et al. (1983) and Miller and Berman (1983). The purpose of the current investigation is to provide an examination of GCBT that may help resolve such shortcomings in this area of research. Specifically, the current study was designed to examine the effectiveness of GCBT for a wide range of clinical problems from a meta-analytic perspective. The effectiveness of GCBT for reducing general clinical symptomatology was examined on the basis of pre- and posttreatment data and comparisons of GCBT with no-treatment control groups. A total of 22 published studies and 8 unpublished doctoral dissertations that reported using GCBT as an intervention to reduce general symptoms was examined.

## METHOD

### Literature Search and Study Selection Procedure

The studies examined in the current investigation were selected on the basis of six criteria. Each step was employed in an attempt to provide a conservative examination of the effectiveness of GCBT for a wide range of symptomatology. First, a computer search using PsychInfo was conducted using *group cognitive-behavioral therapy* as a key word for the years 1989 through 1999. These years were selected to increase the likelihood of examining studies that employed more empirically sound instruments. A total of 337 abstracts (including doctoral dissertation abstracts) was obtained and examined. Subsequently, 120 studies that appeared to examine GCBT as a focus were retained. Studies were then reviewed in regard to whether or not GCBT was clearly employed as the intervention. It was not enough for studies to report that GCBT was employed. Each study was required to include some discussion of employing common GCBT conceptualization and interventions that are consistent with the definition and methods described earlier (Gazda et al., 2000; White, 2000b). After reviewing each of these studies in terms of whether or not they reported employing a clearly defined form of GCBT, the total number of studies was reduced to 57. Studies were required to include pre- and posttreatment data on clinically relevant constructs, measured by standardized or empirically validated measures. Finally, each study was required to include means, standard deviations, and sample sizes for each dependent variable measured. Thus,

the data from a total of 30 studies was examined (22 published studies and 8 unpublished doctoral dissertations).

Studies using children, adolescents, and adults were included. Most studies examined participants with depression, social phobia, eating disorders, and anxiety. Case studies were not included. The general purpose of the current investigation was to gain general information in regard to the effectiveness of GCBT rather than to investigate potential moderators. Thus, the coding procedure used was quite simple and conducted by the author. Studies were coded on the following dimensions: treatment conditions, participants, age of participants, weeks of treatment, hours of treatment, hours per week, therapists per group, type of condition/treatment, symptomatology focus, location of therapy, and solicitation procedure. A summary of study characteristics is displayed in Table 1.

## Statistical Procedures

Similar to Fettes and Peters (1992) and Wolf (1986), effect sizes (Cohen, 1969; Hedges, 1981) were computed for pre- versus posttreatment levels of symptomatology for both GCBT and no-treatment controls. In this way, baseline levels of symptomatology are not ignored, and GCBT may be compared to no-treatment controls on the basis of the pre- and posttreatment effect sizes that emerge. To consider the effect size of the current review with respect to earlier reviews, a GCBT versus no-treatment control effect size was also computed at the time of termination.

Effect sizes were calculated using the procedures described by Johnson and Eagly (2000). Cohen's (1969) *d* effect size was computed for each pre/posttreatment dependent variable. Hedges (1981) argued that Cohen's *d* is partially biased because it overestimates population effect sizes from small samples. Thus, each effect size was corrected by using Hedges and Olkin's (1985) formula to attain an unbiased estimation of the population effect size. This correction typically reduces Cohen's *d* when examining small sample sizes.

Before composite effect sizes were computed, each effect size was weighted as a function of pre- and posttreatment sample sizes and Cohen's (1969) *d* (Hedges & Olkin, 1985). A weighted mean effect size (*d*+) was then computed for both the GCBT and no-treatment conditions on pre- versus posttreatment scale scores as well as the GCBT versus no-treatment scale scores at posttreatment. Confidence intervals and unit-normal *z* values were computed to determine the significance of the derived weighted mean effect sizes.

**TABLE 1 Characteristics of Studies Examined**

| *Variable* | *Frequency* | *%* | M | SD |
|---|---|---|---|---|
| Studies | 30 | | | |
| Published studies | 22 | 73.33 | | |
| Doctoral dissertations | 8 | 26.67 | | |
| Year of study | | | 1995.90 | 3.02 |
| Treatment conditions | | | 1.40 | 0.49 |
| Participants | 1,033 | | | |
| Adult | 621 | 60.12 | | |
| Child/adolescent | 412 | 39.88 | | |
| Age of participants[a] | | | 25.22 | 12.56 |
| Adult | | | 31.27 | 9.98 |
| Child/adolescent | | | 11.11 | 1.69 |
| Weeks of treatment[a] | | | 11.37 | 2.10 |
| Hours of treatment[a] | | | 12.76 | 2.05 |
| Hours per week[a] | | | 1.15 | 0.23 |
| Therapists per group[a] | | | 1.30 | 0.46 |
| Type of condition/treatment | | | | |
| Group cognitive-behavioral therapy | 30 | 100.00 | | |
| Individual | 6 | 20.00 | | |
| Other | 3 | 10.00 | | |
| No-treatment control | 12 | 40.00 | | |
| Symptomatology focus | | | | |
| Anxiety | 5 | 16.70 | | |
| Depression | 6 | 20.00 | | |
| Social phobia | 8 | 26.70 | | |
| Eating dysfunction | 4 | 13.30 | | |
| Panic | 2 | 6.70 | | |
| Other | 5 | 16.60 | | |
| Location | | | | |
| Juvenile detention center | 3 | 10.00 | | |
| Clinic | 24 | 80.00 | | |
| Eating disorder clinic | 3 | 10.00 | | |
| Subject solicitation | | | | |
| Autonomous | 4 | 13.30 | | |
| Referred | 21 | 70.00 | | |
| Unknown | 5 | 16.70 | | |

a. Variables that could not be coded for all studies.

## RESULTS

### Effects Sizes

Effect sizes from 134 comparisons were weighted and averaged to determine whether GCBT interventions were effective in reducing symptom severity. The weighted mean effect size for pretreatment ver-

sus posttreatment scale scores was .77. This indicates that participants who received GCBT averaged close to four fifths of a standard deviation better on posttreatment than on pretreatment measures. The weighted mean effect sizes for child/adolescent and adult studies that employed GCBT were .78 and .73, respectively. In addition, published studies alone yielded a weighted mean effect size of .80, whereas unpublished doctoral dissertations yielded .65.

A subgroup of 12 studies also used no-treatment controls. Effect sizes from 48 comparisons were weighted and averaged to determine whether no intervention was effective for reducing initial symptom severity. The weighted mean effect size for pretreatment versus posttreatment scale scores was .13. This result suggests that participants who received no treatment averaged very little change on measures at the time that posttreatment measures were also administered to GCBT participants.

The effect size from 48 comparisons were weighted and averaged to determine whether GCBT interventions were more effective than no treatment in reducing general symptomatology severity at the time of termination of GCBT participants. The weighted mean effect size for GCBT versus no treatment indicated that at posttreatment, participants who received GCBT averaged .59 of a standard deviation better on outcome measures than their no-treatment counterparts. Summary data for each effect size are displayed in Table 2, and composite effect size data are displayed in Table 3.

The homogeneity of effect sizes test (Q) for GCBT suggests that there is more variability among the individual effect sizes than may be expected on the basis of chance alone. Such heterogeneity of effect sizes may be the result of differences in the effectiveness of GCBT for different symptomatology focus, differences in symptomatology instruments, or a combination of these and other effects. Thus, separate composite effect sizes for pretreatment versus posttreatment comparisons were computed with respect to symptom area (anxiety, depression, social phobia, eating dysfunction, and panic). These results are displayed in Table 4. Composite effect sizes were also computed with respect to instruments that were used in three or more studies (see Table 5).

## DISCUSSION

The purpose of the current investigation was to estimate the effectiveness of GCBT by examining the effects attributed to GCBT in several previous studies. On average, clients treated with GCBT improved symptomatology more than three fourths of a standard deviation at the

*(text continues on p. 105)*

**TABLE 2 Pre- Versus Posttreatment Effect Sizes, Group Cognitive-Behavioral Therapy (GCBT) Versus No-Treatment Control (N-TC) Effect Sizes, and Participant Populations of Studies Analyzed**

| | *GCBT* | | | *N-TC* | | | *GCBT Versus N-TC* | | |
|---|---|---|---|---|---|---|---|---|---|
| *Study and Dependent Variable* | d | w | n | d | w | n | d | w | *Participant Population* |
| Banken (1993) | | | | | | | | | Adult (depression) |
| Depression (BDI) | 3.13 | 2.25 | 10 | | | | | | |
| Depression (HDRS) | 3.96 | 1.68 | 10 | | | | | | |
| Negative automatic thoughts (ATQ) | 1.79 | 3.63 | 10 | | | | | | |
| Barrett (1998) | | | | | | | | | Child (anxiety disorder) |
| Fear (FSSC-R) | 1.49 | 8.99 | 23 | –.11 | 9.98 | 20 | 1.56 | 8.20 | |
| Blonk, Prins, Sergeant, Ringrose, and Brinkman (1996) | | | | | | | | | Child (socially incompetent) |
| Negative self-evaluation (NSES) | 0.50 | 34.91 | 72 | 0.29 | 14.84 | 30 | –0.06 | 21.17 | |
| Social anxiety (SAS-C) | 0.08 | 35.97 | 72 | 0.03 | 15.00 | 30 | –0.04 | 21.17 | |
| Behavioral problems (CBCL) | 0.37 | 35.40 | 72 | 0.53 | 14.49 | 30 | –0.01 | 21.18 | |
| Bright, Baker, and Neimeyer (1999) | | | | | | | | | Adult (depression) |
| Depression (BDI) | 1.30 | 8.97 | 27 | | | | | | |
| Depression (HDRS) | 1.69 | 8.04 | 27 | | | | | | |
| General symptoms (HSCL-58) | 1.01 | 9.62 | 27 | | | | | | |
| Negative automatic thoughts (ATQ) | 0.61 | 10.33 | 27 | | | | | | |
| Butler and Fontenelle (1995) | | | | | | | | | Adolescent (cognitively impaired) |
| Inappropriate sexual acts (DBL) | 2.40 | 2.90 | 10 | –1.56 | 3.84 | 10 | 2.67 | 2.64 | |
| Chambless, Tran, and Glass (1997) | | | | | | | | | Adult (social phobia) |
| Anxious apprehension (PRCS) | 1.44 | 24.63 | 62 | | | | | | |
| Dyad anxiety and skill (PRCS) | 1.06 | 27.16 | 62 | | | | | | |
| Speech anxiety (PRCS) | 1.71 | 22.71 | 62 | | | | | | |
| Clarke, Rohde, Lewinsohn, Hops, and Seeley (1999) | | | | | | | | | Adolescent (depression) |
| GAF | 1.10 | 41.70 | 96 | 0.62 | 12.89 | 27 | 0.76 | 20.09 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depression (HDRS) | 1.65 | 35.83 | 96 | 1.02 | 11.95 | 27 | 0.51 | 20.61 | |
| Depression (BDI) | 1.76 | 34.62 | 96 | 0.72 | 12.67 | 27 | 0.58 | 20.49 | |
| Depression (CBCL) | 0.68 | 45.36 | 96 | 1.05 | 11.85 | 27 | –0.47 | 20.69 | |
| Comer (1998) | | | | | | | | | Adult (depression) |
| Depression (CES-D) | 1.09 | 4.35 | 10 | | | | | | |
| Depression (BDI) | 1.04 | 4.40 | 10 | | | | | | |
| Depression (GCS) | 0.94 | 4.51 | 10 | | | | | | |
| Cox, Ross, Swinson, and Direnfeld (1998) | | | | | | | | | Adult (social phobia) |
| Social phobia (FQ) | 0.56 | 12.07 | 25 | | | | | | |
| Fear of negative evaluation (FNES) | 0.66 | 11.86 | 25 | | | | | | |
| Social phobia (SPS) | 0.48 | 12.15 | 25 | | | | | | |
| Social interaction anxiety (SIAS) | 0.52 | 12.09 | 25 | | | | | | |
| Social phobia (SPAI) | 0.54 | 12.09 | 25 | | | | | | |
| Social phobia and anxiety (SPAI) | 0.46 | 12.17 | 25 | | | | | | |
| Fear-social (LSAS) | 0.12 | 12.48 | 25 | | | | | | |
| Fear-performance (LSAS) | 0.33 | 12.33 | 25 | | | | | | |
| Avoid-social (LSAS) | 0.31 | 12.35 | 25 | | | | | | |
| Avoid-performance (LSAS) | 0.49 | 12.13 | 25 | | | | | | |
| Trait anxiety (STAI) | 0.44 | 12.20 | 25 | | | | | | |
| State anxiety (STAI) | 0.30 | 12.36 | 25 | | | | | | |
| Anxiety sensitivity (ASI) | 0.44 | 12.21 | 25 | | | | | | |
| Depression (BDI) | 0.29 | 12.37 | 25 | | | | | | |
| Faucette (1999) | | | | | | | | | Adult women (physically abused) |
| Depression (BDI) | 0.40 | 5.39 | 11 | | | | | | |
| State anxiety (STAI) | 0.20 | 5.47 | 11 | | | | | | |
| Self-esteem (RSEI) | 0.14 | 5.48 | 11 | | | | | | |
| General symptoms (SCL-90-R) | 0.09 | 3.49 | 7 | | | | | | |
| Fischer (1995) | | | | | | | | | Adolescent (depression) |
| Depression (BDI) | 0.26 | 3.97 | 8 | 0.27 | 3.96 | 8 | 0.06 | 3.99 | |
| Gelernter et al. (1991) | | | | | | | | | Adult (social phobia) |
| Social avoidance/distress (SADS) | 0.64 | 8.08 | 17 | | | | | | |
| Fear/social phobia (FQ) | 1.44 | 6.74 | 17 | | | | | | |



*(continued)*

**TABLE 2 Continued**

| *Study and Dependent Variable* | *GCBT* d | *GCBT* w | *GCBT* n | *N-TC* d | *N-TC* w | *N-TC* n | *GCBT Versus N-TC* d | *GCBT Versus N-TC* w | *Participant Population* |
|---|---|---|---|---|---|---|---|---|---|
| Heimberg et al. (1990) | | | | | | | | | Adult (social phobia) |
| Fear of negative evaluation (FNES) | 0.58 | 11.99 | 25 | | | | | | |
| Social avoidance/distress (SADS) | 0.30 | 12.36 | 25 | | | | | | |
| Confidence as speaker (PRCS) | 1.11 | 10.84 | 25 | | | | | | |
| Fear (FQ) | 0.97 | 11.20 | 25 | | | | | | |
| Social phobia (FQ) | 1.08 | 10.92 | 25 | | | | | | |
| Total phobia (FQ) | 0.90 | 11.36 | 25 | | | | | | |
| Depression (BDI) | 0.82 | 11.52 | 25 | | | | | | |
| Heimberg, Salzman, Holt, and Blendall (1993) | | | | | | | | | Adult (social phobia) |
| Social avoidance/distress (SADS) | 0.47 | 4.86 | 10 | | | | | | |
| Fear of negative evaluation (FNES) | 0.68 | 4.72 | 10 | | | | | | |
| Social phobia (FQ) | 1.43 | 3.97 | 10 | | | | | | |
| Confidence as speaker (PRCS) | 1.34 | 4.08 | 10 | | | | | | |
| Depression (BDI) | 0.97 | 4.47 | 10 | | | | | | |
| Hope, Heimberg, and Bruch (1995) | | | | | | | | | Adult (social phobia) |
| Social avoidance/distress (SADS) | 0.09 | 7.49 | 14 | –0.16 | 4.98 | 13 | 0.59 | 6.46 | |
| Fear (FQ) | 0.80 | 6.90 | 14 | –0.19 | 4.98 | 13 | 1.36 | 5.47 | |
| Fear hierarchy (FAH) | 1.68 | 5.50 | 14 | 0.20 | 4.98 | 13 | 1.21 | 5.69 | |
| Avoidance hierarchy (FAH) | 1.69 | 5.52 | 14 | 0.18 | 4.98 | 13 | 0.97 | 6.02 | |
| Fear of negative evaluation (FNES) | 0.39 | 7.30 | 14 | –0.33 | 4.93 | 13 | 1.48 | 5.29 | |
| Fear/avoidance evaluation (FAH) | 2.10 | 4.84 | 14 | 0.47 | 4.86 | 13 | 1.07 | 5.89 | |
| Percentage of negative thoughts (TL) | 0.88 | 6.84 | 14 | 0.22 | 4.96 | 13 | 0.60 | 6.45 | |
| Performance self-rating (SRR) | 1.56 | 5.75 | 14 | 0.52 | 4.83 | 13 | 1.07 | 5.89 | |
| Performance consensus (SRR) | 1.56 | 5.75 | 14 | –0.06 | 4.99 | 13 | 1.87 | 4.69 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Kastner (1998) | | | | | | | | | Adolescent boys (aggression) |
| Withdrawn (CBCL) | 0.07 | 5.49 | 11 | | | | | | |
| Somatic complaints (YSR) | 0.37 | 5.41 | 11 | | | | | | |
| Anxious/depressed (YSR) | 0.75 | 5.13 | 11 | | | | | | |
| Social problems (CBCL) | –0.16 | 5.48 | 11 | | | | | | |
| Thought problems (CBCL) | 0.00 | 5.50 | 11 | | | | | | |
| Attention problems (YSR) | 0.25 | 5.45 | 11 | | | | | | |
| Delinquent behavior (CBCL) | –0.11 | 5.49 | 11 | | | | | | |
| Aggressive behavior (YSR) | 0.71 | 5.17 | 11 | | | | | | |
| Ladish (1993) | | | | | | | | | Elder adult (depression) |
| Depression (BDI) | 1.20 | 4.24 | 10 | | | | | | |
| Geriatric depression (GDS) | 1.15 | 4.29 | 10 | | | | | | |
| Negative automatic thoughts (ATQ) | 0.88 | 4.56 | 10 | | | | | | |
| Hopelessness (HS) | 0.82 | 4.61 | 10 | | | | | | |
| Lubin, Loris, Burt, and Johnson (1998) | | | | | | | | | Adult women (PTSD) |
| Avoidance (C-A PTSD-S) | 0.63 | 10.48 | 22 | | | | | | |
| Hyperarousal (C-A PTSD-S) | 0.37 | 10.82 | 22 | | | | | | |
| Dissociative experiences (DES) | 0.21 | 10.94 | 22 | | | | | | |
| Depression (BDI) | 0.56 | 10.59 | 22 | | | | | | |
| General symptoms (SCL-90-R) | 0.32 | 10.87 | 22 | | | | | | |
| Lumpkin (1998) | | | | | | | | | Child/adolescent (anxiety) |
| Anxiety (RCMAS) | –0.07 | 5.99 | 12 | | | | | | |
| Fear (FSSC-R) | 0.49 | 5.82 | 12 | | | | | | |
| Trait anxiety (STAIC) | 0.34 | 5.91 | 12 | | | | | | |
| Mattia (1996) | | | | | | | | | Adult (social phobia) |
| Social phobia severity (ADIS-R) | 0.93 | 37.89 | 84 | | | | | | |
| Depression (BDI) | 0.71 | 39.50 | 84 | | | | | | |
| Fear of negative evaluation (FNES) | 0.80 | 38.87 | 84 | | | | | | |
| Mattick, Peters, and Clarke (1989) | | | | | | | | | Adult (social phobia) |
| Phobia avoidance (FQ) | 1.10 | 4.78 | 11 | –0.69 | 4.72 | 10 | 1.05 | 4.60 | |
| Phobia severity (FQ) | 1.65 | 4.10 | 11 | 0.00 | 5.00 | 10 | 1.04 | 4.61 | |

*(continued)*

**TABLE 2 Continued**

| *Study and Dependent Variable* | *GCBT* d | *GCBT* w | *GCBT* n | *N-TC* d | *N-TC* w | *N-TC* n | *GCBT Versus N-TC* d | *GCBT Versus N-TC* w | *Participant Population* |
|---|---|---|---|---|---|---|---|---|---|
| Social avoidance (FQ) | 1.48 | 4.32 | 11 | –0.33 | 4.93 | 10 | 0.58 | 5.02 | |
| Social phobia (SPS) | 0.95 | 4.94 | 11 | –0.03 | 4.99 | 10 | 0.76 | 4.88 | |
| Social interaction anxiety (SIAS) | 0.55 | 5.30 | 11 | 0.18 | 4.98 | 10 | 0.56 | 5.04 | |
| Fear of negative evaluation (FNES) | 0.43 | 5.37 | 11 | –0.05 | 4.99 | 10 | 0.04 | 5.24 | |
| Irrational beliefs (IBT) | 0.72 | 5.16 | 11 | 0.01 | 5.00 | 10 | 0.33 | 5.17 | |
| Locus of control (LCBS) | 0.47 | 5.35 | 11 | –0.11 | 4.99 | 10 | 0.92 | 4.74 | |
| Mendlowitz et al. (1999) | | | | | | | | | Child (anxiety disorder) |
| Active coping (CCSC) | 0.74 | 8.43 | 18 | 0.23 | 19.86 | 40 | 0.53 | 12.05 | |
| Avoidant coping (CCSC) | 0.46 | 8.79 | 18 | 0.05 | 19.99 | 40 | 0.18 | 12.37 | |
| Distraction (CCSC) | 0.13 | 8.98 | 18 | 0.00 | 20.00 | 40 | 0.67 | 11.85 | |
| Total anxiety (RCMAS) | 0.31 | 8.89 | 18 | –0.09 | 19.98 | 40 | 0.32 | 12.28 | |
| Physiological anxiety (RCMAS) | 0.23 | 8.94 | 18 | 0.00 | 20.00 | 40 | 0.28 | 12.31 | |
| Worry/over sensitivity (RCMAS) | 0.37 | 8.85 | 18 | 0.00 | 20.00 | 40 | 0.33 | 12.27 | |
| Social concerns (RCMAS) | 0.32 | 8.88 | 18 | 0.00 | 20.00 | 40 | 0.33 | 12.27 | |
| Depression (CDI) | 0.78 | 8.36 | 18 | –0.10 | 19.97 | 40 | 0.81 | 11.60 | |
| Murphy (1993) | | | | | | | | | Adult women (bulimia nervosa) |
| Body image (BSQ) | 0.52 | 25.71 | 52 | | | | | | |
| Body image avoidance (BIAQ) | 0.40 | 25.50 | 52 | | | | | | |
| Bulimia symptoms (BULIT) | 0.41 | 25.46 | 52 | | | | | | |
| Self-esteem (RSEI) | 0.57 | 24.98 | 52 | | | | | | |
| Depression (BDI) | 0.37 | 25.57 | 52 | | | | | | |
| Eating disorder symptoms (EDI) | 0.56 | 25.03 | 52 | | | | | | |
| Nevonen, Broberg, Lindstroem, and Levin (1999) | | | | | | | | | Adult women (bulimia nervosa) |
| Weight phobia (SSI) | 3.06 | 5.98 | 26 | | | | | | |
| Bingeing (SSI) | 1.08 | 11.32 | 26 | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Vomiting (SSI) | 1.07 | 11.37 | 26 | | | | | | |
| Body mass index (SSI) | 0.41 | 12.73 | 26 | | | | | | |
| Eating disorder (EDI) | 0.97 | 12.08 | 27 | | | | | | |
| General symptoms (SCL-90-R) | 0.28 | 13.37 | 27 | | | | | | |
| Coping resources (CRI) | 0.26 | 13.38 | 27 | | | | | | |
| Depression (BDI) | 0.23 | 13.41 | 27 | | | | | | |
| Ormrod (1995) | | | | | | | | | Adult (anxiety) |
| Trait anxiety (STAI) | 0.68 | 21.26 | 45 | | | | | | |
| Depression (BDI) | 0.95 | 20.21 | 45 | | | | | | |
| Otto, Pollack, Penava, and Zucker (1999) | | | | | | | | | Adult (panic disorder) |
| Global symptom severity (CGI-S) | 2.84 | 2.49 | 10 | | | | | | |
| Panic disorder severity (PDSS) | 1.51 | 3.89 | 10 | | | | | | |
| C. B. Peterson et al. (1998) | | | | | | | | | Adult women (binge-eating |
| Binge-eating episodes (EB-IV) | 2.08 | 5.19 | 16 | –0.23 | 5.46 | 11 | 1.13 | 5.65 | disorder) |
| Hours binge eating (EB-IV) | 0.67 | 7.58 | 16 | –0.17 | 5.48 | 11 | 0.78 | 6.07 | |
| Silverman et al. (1999) | | | | | | | | | Child (anxiety disorder) |
| Anxiety (RCMAS) | 0.63 | 11.91 | 25 | 0.18 | 7.97 | 16 | 0.56 | 9.41 | |
| Fear (FSSC-R) | 0.57 | 12.01 | 25 | 0.35 | 7.87 | 16 | 0.63 | 9.31 | |
| Depression (CDI) | 0.73 | 11.71 | 25 | 0.41 | 7.83 | 16 | –0.12 | 9.74 | |
| Telch, Lucas, Schmidt, and Hanna (1993) | | | | | | | | | Adult (panic disorder) |
| Panic-total weekly (SMA) | 0.58 | 16.31 | 34 | 0.06 | 16.49 | 33 | 0.72 | 15.72 | |
| Panic-spontaneous (SMA) | 0.46 | 16.57 | 34 | 0.00 | 16.50 | 33 | 0.65 | 15.91 | |
| Panic-situational (SMA) | 0.81 | 15.70 | 34 | 0.08 | 16.49 | 33 | 0.70 | 15.77 | |
| Anxiety (SPRAS) | 2.16 | 10.75 | 34 | 0.14 | 16.49 | 33 | 1.34 | 13.54 | |
| Agoraphobia (FQ) | 0.74 | 15.91 | 34 | 0.06 | 16.49 | 33 | 1.13 | 14.41 | |
| Depression (BDI) | 1.29 | 14.04 | 34 | 0.08 | 16.48 | 33 | 0.75 | 15.65 | |
| fear of fear (ASI) | 1.95 | 11.53 | 34 | 0.21 | 16.41 | 33 | 1.82 | 11.84 | |
| Wilfley, Agras, Telch, and Rossiter (1993) | | | | | | | | | Adult women (bulimia) |
| Depression (BDI) | 0.17 | 8.96 | 18 | 0.05 | 9.99 | 20 | 0.26 | 9.39 | |

NOTE: $d$ = effect size; $w$ = weight of effect size; PTSD = Post-Traumatic Stress Disorder; ADIS-R = Anxiety Disorders Interview Schedule-Revised (DiNardo & Barlow, 1988); ASI = Anxiety Sensitivity Index (Peterson & Reiss, 1992); ATQ = Automatic Thoughts Questionnaire (Hollon & Kendall, 1982); BDI = Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979); BIAQ = Body Image Avoidance Questionnaire (Rosen,

*(continued)*

**TABLE 2 Continued**

Srebnik, Saltzberg, & Wendt, 1991); BSQ = Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn, 1987); BULIT = Bulimia Test (Smith & Thelen, 1984); C-A PTSD-S = Clinician-Administered Post Traumatic Stress Disorder Scale (Blake et al., 1995); CBCL = Child Behavior Checklist (Achenbach, 1991); CCSC = Children's Coping Strategies Checklist (Program for Prevention Research, 1992); CDI = Children's Depression Inventory (Kovacs & Beck, 1977); CES-D = Center for Epidemiologic Studies Depression Scale (Radloff & Locke, 1986); CGI-S = Clinician Global Impression Severity Scale (Guy, 1976); CRI = Coping Resources Inventory (Ekecrantz & Norman, 1992); DBL = Daily Behavior Log; DES = Dissociative Experiences Scale (Bernstein & Putnam, 1986); EB-IV = Eating Behavior-IV (Mitchell, Hatsukami, Eckert, & Pyle, 1985); EDI = Eating Disorder Inventory (Garner, Olmsted, & Polivy, 1983); FAH = Fear Avoidance Hierarchy (Hope et al., 1995); FNES = Fear of Negative Evaluation Scale (Watson & Friend, 1969); FQ = Fear Questionnaire (Marks & Mathews, 1979); FSSC-R = Fear Survey Schedule for Children-Revised (Ollendick, Matson, & Helsel, 1985); GAF = Global Assessment of Functioning (American Psychiatric Association, 1994); GCS = Generalized Contentment Scale (Hudson, 1982); GDS = Geriatric Depression Scale (Yesavage et al., 1983); HDRS = Hamilton Depression Rating Scale (Hamilton, 1960); HS = Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974); HSCL-58 = Hopkins Symptom Checklist-58 (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974); IBT = Irrational Beliefs Test (Jones, 1969); LCBS = Locus of Control Behavior Scale (Craig, Franklin, & Andrews, 1984); LSAS = Liebowitz Social Anxiety Scale (Liebowitz, 1987); NSES = Negative Self-Evaluation Scale (Meijers & Fournier, 1982); PDSS = Panic Disorder Severity Scale (Shear et al., 1997); PRCS = Personal Report of Confidence as a Speaker (Paul, 1966); RCMAS = Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978); RSEI = Rosenberg Self-Esteem Index (Rosenberg, 1979); SADS = Social Avoidance and Distress Scale (Watson & Friend, 1969); SAS-C = Social Anxiety Scale for Children (Cohen-Kettenis & Dekking, 1980); SCL-90-R = Symptoms Checklist-90-Revised (Derogatis, 1983); SIAS = Social Interaction Anxiety Scale (Mattick et al., 1989); SMA = Self-Monitoring Approach (Ballenger et al., 1988); SPAI = Social Phobia and Anxiety Inventory (Turner, Beidel, Cooley, Woody, & Messer, 1994); SPS = Social Phobia Scale (Mattick & Peters, 1988); SPRAS = Sheehan Patient Rated Anxiety Scale (Sheehan, 1983); SRR = Self-Report Rating (Hope et al., 1995); SSI = Swedish Semi-Structured Interview (Nevonen et al., 1999); STAI = State-Trait Anxiety Inventory Form Y (Speilberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983); STAIC = State-Trait Anxiety Inventory for Children (Speilberger, 1973); TL = Thought Listing (Cacioppo, Glass, & Merluzzi, 1979); YSR = Youth Self-Report (Achenbach & Edelbrock, 1991).

**TABLE 3 Composite Effect Sizes by Treatment**

| *Treatment* | n *of Studies* | k | d+ | z+ | p | *95% CI for* d+ *Lower* | *Upper* | *Homogeneity (Q)* |
|---|---|---|---|---|---|---|---|---|
| GCBT[a] | 30 | 134 | .77 | 30.51 | < .001 | .72 | .82 | 438.96* |
| N-TC[a] | 12 | 48 | .13 | 2.87 | < .01 | .04 | .22 | 56.56 |
| GCBT versus N-TC | 12 | 48 | .59 | 13.11 | < .001 | .50 | .68 | 139.54* |

NOTE: $k$ = number of effect sizes; $d+$ = weighted mean effect size; CI = confidence interval; $Q$ = test of homogeneity of the effect sizes; GCBT = group cognitive-behavioral therapy; N-TC = no-treatment control.
a. Effect size of pretreatment versus posttreatment comparison.
*$p < .001$.

**TABLE 4 Composite Pre- Versus Posttreatment Effect Sizes for Group Cognitive-Behavioral Therapy by Symptomatology**

| *Symptom* | n *of Studies* | k | d+ | z+ | p | *95% CI for* d+ *Lower* | *Upper* | *Homogeneity (Q)* |
|---|---|---|---|---|---|---|---|---|
| Anxiety | 5 | 17 | 0.59 | 7.83 | < .001 | 0.44 | 0.74 | 18.83 |
| Depression | 6 | 19 | 1.23 | 18.88 | < .001 | 1.10 | 1.36 | 64.16* |
| Social phobia | 8 | 51 | 0.81 | 19.48 | < .001 | 0.73 | 0.89 | 107.18* |
| Eating dysfunction | 4 | 17 | 0.59 | 9.72 | < .001 | 0.47 | 0.71 | 64.74* |
| Panic | 2 | 9 | 1.10 | 11.43 | < .001 | 0.91 | 1.29 | 43.68* |

NOTE: $k$ = number of effect sizes; $d+$ = weighted mean effect size; CI = confidence interval; $Q$ = test of homogeneity of the effect sizes.
*$p < .001$.

time of termination when compared to pretreatment symptomatology levels. When compared to no-treatment improvements, GCBT participants reduced symptomatology by almost three fifths of a standard deviation at the time of termination. Such findings are consistent with previous meta-analytic studies (Dush et al., 1983; Miller & Berman, 1983) despite an expected improvement of effectiveness.

More than half of the participants were adults, and more than a quarter of the participant population had social phobia as the presenting problem. Thus, the results of this review must be considered with respect to such constraints. The inclusion of more studies with depressed participants is expected to yield larger effect sizes because much of the literature and training surrounding CBT often focuses on the treatment of depression. Surprisingly, it appears that GCBT is slightly more effective for children and adolescents than for adults. Individual effect sizes of the studies suggest that GCBT interventions work

**TABLE 5 Composite Pre- Versus Posttreatment Effect Sizes for Group Cognitive-Behavioral Therapy by Instrument**

| *Instrument* | k | d+ | z+ | p | *95% CI for* d+ *Lower* | *Upper* | *Homogeneity (Q)* |
|---|---|---|---|---|---|---|---|
| ATQ | 3 | 0.97 | 1.02 | > .05 | 0.52 | 1.42 | 3.74 |
| BDI | 17 | 0.87 | 13.03 | < .001 | 0.74 | 1.00 | 68.97** |
| CBCL | 6 | 0.42 | 4.22 | < .001 | 0.23 | 0.61 | 8.19 |
| FNES | 6 | 0.68 | 6.06 | < .001 | 0.46 | 0.90 | 1.63 |
| FQ | 10 | 0.99 | 8.95 | < .001 | 0.77 | 1.21 | 8.58 |
| FSSC-R | 3 | 0.86 | 4.46 | < .001 | 0.48 | 1.24 | 5.37 |
| HDRS | 3 | 1.74 | 11.76 | < .001 | 1.45 | 2.03 | 8.57* |
| PRCS | 5 | 1.35 | 12.75 | < .001 | 1.05 | 1.55 | 6.05 |
| RCMAS | 6 | 0.34 | 2.46 | < .01 | 0.07 | 0.61 | 2.14 |
| SADS | 4 | 0.36 | 2.06 | < .02 | 0.02 | 0.70 | 1.28 |
| STAI | 4 | 0.48 | 3.44 | < .001 | 0.21 | 0.75 | 1.70 |

NOTE: $k$ = number of effect sizes; $d+$ = weighted mean effect size; CI = confidence interval; $Q$ = test of homogeneity of the effect sizes; ATQ = Automatic Thoughts Questionnaire (Hollon & Kendall, 1982); BDI = Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979); CBCL = Child Behavior Checklist (Achenbach, 1991); FNES = Fear of Negative Evaluation Scale (Watson & Friend, 1969); FQ = Fear Questionnaire (Marks & Mathews, 1979); FSSC-R = Fear Survey Schedule for Children-Revised (Ollendick, Matson, & Helsel, 1985); HDRS = Hamilton Depression Rating Scale (Hamilton, 1960); PRCS = Personal Report of Confidence as a Speaker (Paul, 1966); RCMAS = Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978); SADS = Social Avoidance and Distress Scale (Watson & Friend, 1969); STAI = State-Trait Anxiety Inventory Form Y (Speilberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983).
*$p < .05$; **$p < .001$.

quite well for adolescents and adults with depression, social phobia, and panic but are very ineffective for adolescent boys with high levels of aggression. However, the finding representing aggressive adolescent boys' response to GCBT interventions is based on only 11 participants. On the other hand, such a finding is consistent with other studies that have found peer-group interventions to increase problem behaviors in adolescents with conduct disorder (e.g., Dishion, McCord, & Poulin, 1999).

Findings of unpublished doctoral dissertations were included in the current investigation to attain less biased results. Because statistically insignificant results are rarely published, it was not surprising to find a greater effect size among published studies in comparison to unpublished doctoral dissertations.

Composite effect sizes computed for symptomatology area suggest that GCBT interventions are most effective for treating depression, panic, and social phobia. However, the homogeneity of effect sizes tests

suggests that other factors not uncovered by the current investigation play important roles in the outcome of GCBT. Furthermore, composite effect sizes computed for individual instruments suggest that such factors may particularly impact the measurement and GCBT of depression. The large degree of heterogeneity in the effect sizes for the GCBT of depression and depression instruments may be due to the fact that such instruments as the Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979) were employed in several studies in which depression symptomatology was not a central focus of treatment. Regardless of the explanation, the homogeneity test values for depression, social phobia, eating dysfunction, panic, and measures of depression are quite high. These results signal the need for subsequent investigations that account for other variables that impact the utility of GCBT interventions. Considering the benefit that GCBT interventions appear to offer clients with depression and panic symptoms, perhaps future investigations may focus on how to improve GCBT interventions for anxiety and eating dysfunction. Furthermore, it is possible that particular GCBT techniques are more conducive to treating specific symptomatology than a general GCBT approach. Investigations examining these potential differences are certainly warranted.

Currently, with respect to specific inclusion criteria, there are no known GCBT meta-analytic studies to which the current findings may be compared. In comparison to individual CBT, GCBT interventions appear competitive. Chambless and Gillis (1993) demonstrated the usefulness of examining CBT interventions by individual symptoms. In their review of pretest/posttest effects, they found CBT to be effective in reducing anxiety ($d+ = 1.68$), number of panic attacks ($d+ = .98$), and fear of fear ($d+ = 1.75$) for individuals with panic disorder and fear of negative evaluation ($d+ = .85$) for individuals with social phobia. CBT has also been analyzed from a meta-analytic procedure for treating depressed adolescents; an overall effect size of 1.02 was reported by Reinecke et al. (1998). For depressed adults, Dobson (1989) reported an effect size of 2.15 for CBT when compared to nontreatment controls. Gaffan, Tsaousis, and Kemp-Wheeler (1995) reanalyzed and expanded on Dobson's (1989) work. They confirmed his conclusions but also found that roughly half of the difference between cognitive interventions and other treatments was attributable to researcher allegiance (the preference of one therapeutic approach over another) and other methodological procedures. Scogin and McElreath (1994) found an effect size of .78 among investigations that used CBT in individual and group formats. Still, the current study is difficult to compare to previous findings due to a lack of correspondence between study inclusion criteria and treatment methods.

As Kalodner and Riva (1997) identified, an investigation of the effectiveness of a group intervention entails its own set of limitations. Extraneous variables such as leadership style, characteristics of the group members, and activities or exercises that may or may not occur during treatment are difficult to control. Many of the results found in the current investigation are also dependent on the characteristics of the studies included. For instance, many studies did not indicate the average number of hours that clients participated in GCBT. Thus, it is difficult to test whether or not the length of participation and other related factors play significant roles in treatment effectiveness. An effort to examine the role of various moderator variables, such as the length of time a client spends in treatment or therapist-related characteristics, should provide an estimate of the potency of GCBT that can be more appropriately generalized to common practice. Particular strengths of the current study include the use of empirically supported measures of a wide range of clinical symptomatology, use of unpublished studies, and inclusion of pre- and posttreatment data and no-treatment control groups.

Why is it that such a goal-focused therapy appears effective for such a wide range of symptoms in a group format? Should we not see the effects of task focus contradict such valuable therapeutic factors as group cohesiveness? White (2000a) argued that the mutuality of cohesiveness and task focus are unique to GCBT. One of the greatest tasks of the GCBT therapist is to facilitate the movement from cohesiveness to focusing on particular tasks. Such a task may be accomplished by requesting the group to focus on how the cohesiveness in the group adds a new dimension to the current problem or how it may serve as a significant component to problem resolution. Somewhat consistent with White's (2000a) reasoning, Yalom (1995) described consensual validation as an approach to facilitate resolution in his discussion of patient-therapist transference as a paramount therapeutic factor. Consensual validation takes advantage of the presence and perceptions of each individual group member by encouraging the client to explore the evaluation of a particular hypothesis from multiple perspectives. By employing a sort of in-group hypothesis test, GCBT may offer a more efficient and less time-consuming arena for cognitive restructuring. Such an assumption is supported by decades of research surrounding the looking-glass self (Gallup, 1977; Mead, 1934) and theories of social comparison (Festinger, 1954; Kruglanski & Mayseless, 1990). A major assumption of CBT is that self-destructive behaviors and thoughts will subside when distorted core beliefs are confronted and reconstructed. GBCT may provide a practical forum for such change because of the immediate consensual validation that can be afforded by a group atmosphere.

In conclusion, the findings of the current study suggest that GCBT is effective for treating a wide range of clinical symptoms. Subsequent research on the effectiveness of GCBT may improve with closer attention to potential moderating variables and comparisons of GCBT with other forms of group therapy.

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