

## **SEARCH RESULTS**

Sixteen (16) studies were located that fit the intervention, outcome, and sampling selection criteria for this review, and whose methodological features met minimally acceptable standards of internal and external validity as determined through the consensus coding (see Table 1 for coding protocol). Four of the studies were published in 2000 or more recently; eight of the studies were published in the 1990's; and the remaining four studies were published in the 1980's. Table 2 shows selected characteristics of the participants in the studies. Table 3 presents information on the design features used in the studies, as well as detailed information on the characteristics of the intervention and the outcome(s) measured in the studies.

### *Participants*

The sixteen studies in this review explored the effects of cognitive-behavioral interventions on a total of 791 participants. These participants were largely labeled behaviorally disordered or seriously emotionally disturbed, although three studies (Freeman & Hutchinson, 1994; Larson & Gerber, 1987; Sinclair, Christenson, & Evelo, 1998) included students labeled as learning disabled in their respective studies and several other categories of student disabilities (attention deficit hyperactivity disorder, oppositional defiance disorder, other health impaired, autism, and traumatic brain injury) were represented in individual studies. One study (Knapczyk 1988) reported research on non-categorically labeled students.

Eleven of the 16 studies reported precise estimates of the average ages of the participants in the research. These estimates ranged from an average age of 13.3 years to 17 years ( $M = 15.1$  [unweighted]). The remaining five studies reported age ranges for their participants, and these ranges spanned the 12 to 19 year age range. Most studies sampled participants who were either exclusively male or mostly male; two studies (Bodtker, 2001; Larson & Gerber, 1987) did not

report gender percentages; and one study (LeCroy, 1988) involved participants who were exclusively female.

Finally, the majority of studies that reported sample attrition rates (57%) lost no participants in the research process. Three studies did not report attrition rates (Bodtker, 2001; Etscheidt, 1991; LeCroy, 1988). Of the studies that did report a measurable attrition rate, these rates ranged from an 8% rate in the Dangel, Deschner, and Rasp (1989) study to a 38% rate in one of the treatment groups in the Barkley et al. (2001) study.

### *Research Designs*

Fifteen of the 16 studies in this review were classified as quantitative in design; only the Freeman and Hutchinson (1994) used a qualitative (case study) design. Of the 15 quantitative designs, only two were single group pretest-posttest designs, five used a variety of single-participant designs, and eight were classified as between group designs (studies utilizing one or more between groups factors and within subjects factors are designated simply as between groups designs here for the sake of simplicity). All eight of these between groups studies made use of either randomized, quasi-randomized (Barkley et al. 2001), or cluster randomized (Etscheidt, 1991; Robinson, Smith, & Miller, 2002) assignment processes.

*Between groups designs.* Five of the between groups studies used a classic pretest-posttest control group design, although the Barkley et al. (2001) study used multiple posttests. The remaining three between groups studies were all posttest only control group designs with only the Clark, Hawkins, Sheeber, Lewinsohn, & Seeley (1995) study making use of more than one posttest measurement. Four of the eight studies utilized a “no treatment” or “treatment as usual” control group; the remaining four studies used alternative treatment groups. Two studies (Etscheidt, 1991; Larson & Gerber, 1987) used both alternative treatment groups and “treatment

as usual” control groups. In these two cases, the effect sizes calculated for this review involved the primary treatment group compared with the control group.

*Single-participant designs.* Of the five single-participant design studies, all were multiple baseline studies. Three of the studies incorporated multiple baseline across settings designs and two were across participant designs.

*Single group pretest-posttest designs.* Two studies reported on the effects training youth with aggressive behaviors on anger control/conflict education curricula (Bodtker, 2001; Dangel et al, 1989). In both cases there were substantive deviations from a traditional single group pretest-posttest design. In the Bodtker (2001) study, two cohorts of students were pretested at the beginning of a semester and posttested at the end of the semester, but in different semesters. The data were then combined for the analyses in the study. In the Dangel et al, (1989) study, the data were actually reported as a multiple baseline study, but with groups of four and eight subjects in each group. The raw data were reported for baseline, treatment, and follow-up allowing for the calculation of a change score from baseline to first posttest.

### *Outcomes*

Most of the studies measured multiple outcomes, although many of these multiple outcomes in these 16 studies were either not amenable to effect size calculation, were not germane to dropout prevention, or were process-oriented outcome variables (e.g. capacity of the participants to implement the intervention). None of the 16 studies measured more than one outcome construct that was both relevant to dropout prevention and provided sufficient data to allow for effect size calculation. The single exception to this statement was the Sinclair et al. (1998) study in which “enrollment status” was used as an outcome variable as was “relevance of school” and “expectation to graduate”. One might make the case that these latter two perception

variables represented a demonstrably different dropout construct than the more behaviorally-oriented “enrollment status” (dropped out or not dropped out). Nonetheless, we included only the effect size associated with the “enrollment status” dependent measure in this review.

Only three studies measured retention or dropping out. The Barkley et al. (2001) measured “retention in treatment” as the outcome variable of interest for this review, and the Sinclair et al. (1998) measured “enrollment status”. The Freeman and Hutchinson (1994) study also measured a student’s perspectives on dropping out or staying in school while the student was participating in a discrete intervention program. The remaining 13 studies in this review all measured either physical or verbal aggression, correlates of dropout (as discussed).

#### *Characteristics of Cognitive-Behavioral Interventions*

Although the features of cognitive-behavioral interventions found in these 16 studies varied extensively, there were many common characteristics. Almost all of the studies discussed a specific curriculum that was delivered through a defined period of time within a school or residential treatment setting. For example, the Barkley et al. (2001) study implemented a *problem-solving communication training curriculum* which had been described as part of an earlier study described in Barkley, Guevremont, Anastopoulos, and Fletcher (1992). The Clarke et al. (1995) curriculum was an adaptation of a curriculum titled “*Adolescent coping with depression*” and had been published earlier (Clarke, Lewinsohn, & Hops 1990). The Coleman et al. (1992) study used a curriculum developed prior by Goldstein and Glick (1987). Finally, the Etscheidt (1991) study used an adaptation of a curriculum published by Lochman, Nelson, and Sims (1981). Perhaps the studies in which the best descriptions of the curricula used was embedded directly in the study narrative were the Presley and Hughes (2000) study (which was

adapted from a curriculum published by Walker, Todis, Holmes, & Horton, 1988) and the Sinclair et al. (1998) curriculum titled *Check and Connect*.

In many cases, the study authors characterized the curricula used within the broader genre of social skills competency development. These social skills often included such concepts as appropriate communication techniques, meeting people, and responding to potentially provoking stimuli. What characterized these studies as cognitive-behavioral studies, however, were the meta-cognitive skills the participants in these studies learned. In almost every study, for example, participants were taught problem-solving skills, conflict management skills, conflict resolution/negotiation skills, self-talk and relaxation skills, and emotional and anger self-awareness techniques. While these are not social skills per se, these skills promote the social skills mentioned earlier.

In those studies in which a defined curriculum was implemented, the typical duration was in the 10 – 15 week genre, with the normative intensity of implementation following a traditional 50-minute classroom period one to five times per week. However, substantial deviations from these normative instructional practices were reported and studies. For example, Dangel et al. (1989) implemented their intervention for only six weeks for about one hour per week, and the intervention reported in LeCroy (1988) lasted for only three weeks, although there were two sessions each week lasting 90 minutes.

### *Setting*

The majority of the studies (eight) were conducted in public secondary schools, although most of these settings were in segregated (or self-contained) classes for students with disabilities. Three studies took place in residential treatment centers, and one study each involved a private

school, a segregated public school, and a correctional facility. One study also did not state the setting.

### *Treatment Fidelity*

Several of the studies assessed fidelity or integrity of treatment implementation. Perhaps the best description of how this was accomplished was given by Robinson et al. (2002), in which 20% of treatment sessions were observed by two trained observers who used a checklist to confirm treatment fidelity. Additional debriefings were conducted with teachers implementing the treatment after all sessions that were not directly observed.