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BRIEF REPORT

A Randomized Controlled Trial of a Cognitive-Behavioral Program for the Prevention of Depression in Adolescents Compared With Nonspecific and No-Intervention Control Conditions

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Adolescent depression is a common and recurrent disorder associated with significant impairment and other forms of psychopathology. Finding an effective intervention that prevents depression in adolescents is an important public health priority. Participants were 518 high school students (mean age = 15.09; *SD* = 0.76) from the mid-south of the United States. Participants were randomly assigned to 1 of 3 conditions: a cognitive-behavioral program (CB; *n* = 166), nonspecific control (NSp; *n* = 175), or a no-intervention control condition (NIC; *n* = 177). Both the CB and NSp conditions consisted of 90-min sessions administered once a week over a 10-week period during regular school hours. Depressive symptoms were assessed with the Children's Depression Inventory (CDI) at baseline; postintervention; and at 4-, 8-, and 12-month follow-ups. The Time × Condition interaction was significant, $F(8, 478.57) = 3.32$, $p = .001$, indicating that at the 4-month follow-up, youth in the CB condition had significantly lower CDI scores compared with those in the NSp ($p = .047$, $g = 0.29$; CI [0.06, 0.52]) and the NIC conditions ($p = .003$, $g = 0.30$; CI [0.07, 0.53]). Future studies need to examine the importance of theory-driven change mechanisms, interpersonal relationships, and structural circumstances in schools as factors impacting the long-term effects of CB prevention programs.

Keywords: school-based prevention, depression, adolescents

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The first onset of major depression often occurs during adolescence (Hankin et al., 1998) and is associated with increased risk of recurrent depressive episodes (Rutter, Caspi, & Moffitt, 2003) and other psychopathology into adulthood (Birmaher et al., 1996). Therefore, finding an effective intervention that prevents depression in adolescents is an important public health priority.

Meta-analyses of studies aimed at preventing depression in children and adolescents have concluded that some efficacious interventions for the prevention or reduction of depressive symptoms in youth exist (e.g., Brunwasser, Gillham, & Kim, 2009; Horowitz & Garber, 2006; Merry, Hetrick, Cox, Brudevold-Iversen, Bir, & McDowell, 2011; Stice, Shaw, Bohon, Marti, & Rohde, 2009). On average, effect sizes (ES) of the various depression prevention programs have been small to modest. Moderators of these effects have included the type of sample (i.e., universal, selective, indicated), participant attributes (e.g., age, sex, race), characteristics of the intervention (e.g., duration, content) and interventionists (e.g., level of training), and timing of assessments (e.g., postintervention, follow-ups of various lengths). ESs also differ depending on the type of comparison group used, with greater ESs when contrasted with a no-intervention or waitlist control and lower ESs when compared with an active or placebo control (Cuijpers, van Straten, Smit, Mihalopoulos, & Beekman, 2008).

Meta-analyses of the psychotherapy literature have shown that nonspecific processes account for about half the effects of specific interventions such as cognitive-behavioral therapy (CBT; Baskin, Tierney, Minami, & Wampold, 2003; Stevens, Hynan, & Allen, 2000). Furthermore, Baskin et al. (2003) found similar effects for specific (e.g., CBT) and nonspecific programs when they had structural equivalence regarding the number and duration of sessions, settings (group vs. individual), level of therapists' experience, and adaptability of the therapy to the client. Baskin and associates argued that the efficacy of specific programs was due

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mostly to such nonspecific processes. A recent meta-analysis of studies of therapy for depression in adults found that nonspecific processes were responsible for almost 50% of therapy effects, whereas specific factors accounted for only 17% of the effects (Cuijpers et al., 2012).

Examination of nonspecific processes has been less common in randomized control trials (RCTs) of depression prevention programs. Most depression prevention studies in adolescents have compared a specific intervention with a no-intervention or waitlist control (Merry et al., 2011). Only a few trials have compared a specific prevention program with a nonspecific control condition (Merry, McDowell, Wild, Bir, & Cunliffe, 2004; Pössel, Horn, & Hautzinger, 2006; Stice, Rohde, Seeley, & Gau, 2008). Merry and colleagues (2004) reported that the specific school-based Resourceful Adolescent Program (Shochet et al., 2001) was more effective than a nonspecific control in the short term but not at follow-up; the ES was small and the findings were not consistent across depression measures. The Penn Resiliency Program repeatedly has been shown to be more effective than a no-intervention control (Brunwasser et al., 2009) but has not been significantly better at reducing or preventing depressive symptoms in middle-school students when compared with an alternative intervention (Gillham et al., 2007).

Using a universal prevention design, Pössel et al. (2006) demonstrated that eighth-grade students participating in a cognitive-behavioral (CB) prevention program (LARS&LISA [*Lust An Realistischer Sicht & Leichtigkeit Im Sozialen Alltag Lust*; translated as *Desire for a Realistic View and Ease in Social Aspects of Everyday Life*]; Pössel, Horn, Seemann, & Hautzinger, 2004) showed a significant decrease in depressive symptoms compared with their peers participating in an "expressive writing" intervention (Pennebaker, 1997) and a no-intervention control condition at both postintervention and the 3-month follow-up. One limitation of this study, however, was that the durations of the expressive writing program (i.e., six 45-min sessions) and the CB program (i.e., ten 90-min sessions) were different from each other. Thus, the expressive writing program did not fulfill the requirement of a structurally equivalent condition (Baskin et al., 2003). Stice et al. (2008; Stice, Rohde, Seeley, & Gau, 2010) addressed some of the limitations of the studies by Merry et al. (2004) and Pössel et al. (2006) by comparing a six-session CB program with a supportive-expressive program, which was structurally equivalent but had different content, and a no-intervention, waitlist control group in an indicated sample of high school students. Participants in the CB condition showed a significantly greater decrease in depressive symptoms from baseline to postintervention and from baseline to 6-month follow-up compared with those in the waitlist control group (Stice et al., 2008) and a significantly greater decrease in depressive symptoms from baseline to postintervention but not from baseline to the 6-, 12-, or 24-month follow-up compared with those in the supportive-expressive program (Stice et al., 2008; Stice, Rohde, Seeley, & Gau, 2010).

Thus, the results of studies addressing the specificity question are inconclusive. Indeed, in the most thorough review of this literature to date, Merry and colleagues (2011) concluded that "There was no evidence of efficacy in the few studies that compared intervention with placebo or attention controls" (p. 1414). Therefore, Merry et al. asserted that "Future studies should test efficacy against a credible alternative to address the gap that remains concerning possible placebo effect" (p. 1442). Without explicitly contrasting the specific prevention program with a nonspecific control condition, it is not possible to know whether observed effects are attributable to the specific intervention methods per se, nonspecific factors common to both conditions (e.g., attention), or design artifacts (e.g., demand characteristics). Such comparisons can help to identify and enhance components that work and eliminate those that do not, thereby creating more powerful and cost-effective interventions (Kraemer, Wilson, Fairburn, & Agras, 2002).

The current study directly addressed the specificity issue and built on previous literature in several ways. First, in contrast to the trial by Pössel et al. (2006), in the current study the durations of the CB and nonspecific programs were identical. Second, this study included an assessment-only control condition that did not receive any intervention, thereby allowing us to determine whether no differences (null findings) between the specific and nonspecific intervention were due to their both being effective or both being ineffective. Third, beyond the most extensive test of nonspecific depression prevention approaches conducted by Stice and colleagues (2008), the current study was a particularly stringent test of specificity by including a credible comparison program that was equivalent not only in structure but also in content. That is, the topics covered during each session in each program were similar; only the information and skills conveyed were different (see the supplemental material for a description of the programs).

Thus, in the current study, we compared a CB, school-based program, LARS&LISA (Pössel, Horn, Seemann, & Hautzinger, 2004), with two different control conditions with regard to adolescents' depressive symptoms at multiple time points over 12 months. One condition was a structurally and topically equivalent nonspecific control and the other was a no-intervention control. We hypothesized that the CB program would produce significantly lower levels of depressive symptoms at postintervention as compared with the nonspecific control (NSp) and the no-intervention control (NIC) conditions and would have a significant sustained effect compared with the other two conditions.

Method

Participants

Participants were 518 students (mean age = 15.09 years; *SD* = 0.76) in Wellness classes at a high school in the mid-south of the United States; 62.7% were female. The sample was 72.8% Caucasian, 14.7% African American, 5.4% Latino, 1.4% Asian/Pacific Islander, 0.8% Native American, 4.4% mixed geritage, and 0.6% "other." Census data indicated that the school serves communities characterized as predominantly working to middle class. According to county data, 29% of the students were eligible for free or reduced-price lunches.

Participants were randomly assigned by Wellness class to one of three conditions: the CB program, the NSp, or the NIC condition. Wellness class is typically taken in ninth grade and is state-mandated for all students in regular academic classes within the school district in which the study was conducted. Wellness classes do not differ from one another in terms of students' academic level or educational aspirations. To eliminate any potential systematic effects of class period, randomization to conditions varied across

the days, times, and time of year (spring vs. fall) from semester to semester. Demographic characteristics of students in the three conditions are presented in Table 1.

Over the course of the follow-up period, 12% of the total sample was not available for evaluation mainly due to their having changed schools during the study. No significant differences were found between the unavailable and the remaining students as a function of condition, $\chi^2(2) = 1.60$, $p = .450$; race/ethnicity, $\chi^2(6) = 8.83$, $p = .183$; or severity of depressive symptoms at baseline, $t(513) = -1.15$, $p = .251$. Unavailable students were significantly older than those who remained, $t(68.17) = -5.31$, $p < .001$, and were somewhat more likely to be male, $\chi^2(1) = 3.73$, $p = .053$.

Measure

Severity of depressive symptoms was assessed with the *Children's Depression Inventory* (CDI; Kovacs, 1981), a 26-item measure of cognitive, affective, and behavioral symptoms of depression (the suicide item was removed at the request of the school, as is common in school-based research). Each item lists three statements, scored 0 through 2, in order of severity. Respondents rate each CDI item according to how much they have experienced each depressive symptom in the past 2 weeks. The CDI differentiates between normal and clinically depressed youth (Carey, Faulstich, Gresham, Ruggiero, & Enyart, 1987) and has good test–retest reliability, internal consistency, and construct validity, especially in nonclinical samples (Sitarenios & Kovacs, 1999). In the current sample, internal consistency of the CDI ranged from $\alpha = .91$ to .93 across the five assessments.

Adherence to the LARS&LISA and the NSp manuals was assessed using checklists of the intended content of the individual sessions (e.g., "explained thinking errors," "discussed feelings"). After each session, group leaders independently recorded what content had been covered in the session (0 = *not covered*, 1 = *partially covered*, 2 = *completely covered*). The average rating across all sessions for all raters was 1.83 ($SD = 0.09$) for the LARS&LISA sessions and 1.85 ($SD = 0.12$) for the NSp sessions. Interrater reliability across all sessions was $r = .62$ for the LARS&LISA program and $r = .79$ for the NSp condition.

Table 1
Sample Demographics

Demographic	CB ($n = 166$)	NSp ($n = 175$)	NIC ($n = 177$)
Age *M* (*SD*)	15.13 (0.75)	15.05 (0.66)	15.07 (0.85)
Sex (females) *N* (%)	102 (61.5%)	108 (61.7%)	115 (65.0%)
Race/Ethnicity *N* (%)			
Caucasian	125 (75.3%)	116 (66.7%)	136 (76.4%)
African American	18 (10.8%)	34 (19.5%)	24 (13.5%)
Latino	8 (4.8%)	10 (5.7%)	10 (5.6%)
Asian/Pacific Islander	3 (1.8%)	2 (1.1%)	2 (1.1%)
Native American	1 (0.6%)	2 (1.1%)	1 (0.6%)
Mixed heritage	9 (5.4%)	9 (5.2%)	5 (2.8%)
Other	2 (1.2%)	1 (0.6%)	0 (0.0%)
Sessions attended *M* (*SD*)	8.5 (2.3)	8.6 (2.0)	—
Range	1–10	0–10	—

Note. CB = cognitive-behavioral prevention program; NSp = nonspecific control; NIC = no-intervention control. Dashes indicate no information is available.

The CB Program: LARS&LISA

The manualized school-based prevention program, LARS&LISA, was originally developed in Germany (Pössel, Horn, Seemann, & Hautzinger, 2004) and was modified for youth in the United States. Modifications included constructing culturally appropriate role plays for American students in which relevant idiomatic expressions were used and otherwise tailoring the program for use by American youth. The LARS&LISA intervention is based on the social information processing (SIP) model (Dodge, 1993) and uses various methods from CBT (Beck, Rush, Shaw, & Emery, 1979). Cognitive and social components of the SIP model are targeted as follows: (a) Four cognitive sessions focus on understanding the relations among cognitions, emotions, and behaviors and teach how to identify and challenge negative cognitions; and (b) four social sessions train participants in assertiveness and social competence skills (for a description of the links between the SIP and LARS&LISA, see Pössel, Adelson, & Hautzinger, 2011). In addition, the first session outlines the rationale for the program, and the 10th session is a review and celebration.

The NSp Condition

The NSp condition was structurally equivalent (Baskin et al., 2003) to the LARS&LISA program in the following ways: (a) ten 90-min weekly sessions, (b) gender homogenous groups, (c) two group leaders, (d) similar content areas (see the supplemental material), (e) similar amount of attention from group leaders, and (f) similar degree of training and supervision of group leaders. The primary difference between the LARS&LISA and the NSp program was that the latter did not convey any information about the CB model or teach specific cognitive or social skills. Instead, NSp used basic supportive humanistic strategies with more broad-based and open-ended conversations (e.g., a discussion about what emotions are without connecting feelings to thoughts or behaviors).

The NIC Condition

Students randomized to the NIC condition remained in their regular Wellness class, which was the same duration as the CB and NSp conditions. Wellness classes included discussions about health, nutrition, sleep, and exercise. Control students participated in the same assessments at each time point as those in the CB and NSp conditions.

Design and Procedure

Letters describing the study were sent to parents of students in all Wellness classes each semester. Students who received parental consent were invited to participate and asked for their assent. Both interventions were described to students, teachers, and parents as probably efficacious. Assessments were conducted in group sessions 1 week before the intervention began (baseline); 1 week after the intervention ended (postintervention); and at 4, 8, and 12 months postintervention. The study was approved by the University Institutional Review Board for the Protection of Human Subjects.

As in an earlier study of the LARS&LISA program (Pössel, Horn, & Hautzinger, 2003), we used separate same-sex groups in the CB and the NSp conditions to maintain structural equivalence

across programs. Both males and females have been found to be more likely to share their feelings and to be more self-disclosing in same-sex versus mixed-sex groups, especially when the intervention includes a social skills component (e.g., Warrington & Younger, 2003).

A total of 63 classes participated. The 20 CB and 19 NSp groups were led by two facilitators, one designated as the group leader (master's level or higher; $n = 3$) and the other as coleader (graduate students in clinical psychology or counseling psychology, $n = 17$). All leaders were experienced in working with adolescents and trained in either a CB or a humanistic counseling tradition (NSp). To ensure a similar level of therapist experience, which is one element of structural equivalence, each group was led by at least one group leader who was trained in and implemented both programs.

Training for each program was provided in two steps. First, group leaders participated in a mock version of the program with each other conducted by program supervisors (PP, JG, NCM). Second, they studied the manual, all materials, and procedures and resolved unclear points with the supervisors. Throughout the course of the intervention period, weekly supervision was provided to all group leaders by the supervisors, who watched video recordings of each session. Supervision meetings were held separately for coleaders of LARS&LISA and the NSp condition. To ensure credibility of both programs for the leaders, the particular models underlying the CB and NSp programs were reviewed during supervision. In addition, group leaders were trained and supervised in both CB and humanistic skills; both programs were considered to be credible interventions.

Data Analysis

We conducted a three-level analysis, with time points nested within students, and students nested within classes, using SPSS 20. We fit mixed models with repeated measures and the subcommand EMMEANS to calculate pairwise comparisons with Bonferroni tests (i.e., all reported analyses were automatically Bonferroni adjusted). The dependent variable in the analyses was the CDI total score. Condition (CB, NSp, NIC) and time (baseline; postintervention; 4, 8, and 12 months postintervention) and all interactions among these variables were entered as independent variables. Models with sex as an additional independent variable also were estimated. Neither the main effect nor any interactions with sex was significant; accordingly, analyses reported here did not include sex.

ESs were calculated following Hedges' g (mean of one group minus mean of the other group) divided by the pooled standard deviation of both groups). A g of 0.2 represents a small effect, 0.5 is a medium effect, and 0.8 is a large effect (Cohen, 1988). Hedges' gs are displayed as positive values when in line with the hypotheses and as negative values when counter to them.

Results

Sample and Intervention Group Characteristics

The three conditions (CB, NSp, NIC) did not differ significantly by age, $F(2, 510) = 0.43$, $p = .65$; sex, $\chi^2(2) = 0.42$, $p = .81$; race/ethnicity, $\chi^2(12) = 10.81$, $p = .55$, or severity of depressive symptoms at baseline, $F(2, 510) = 0.60$, $p = .55$. No significant differences were found between the CB and NSp conditions regarding group size (CB: $M = 9.17$, $SD = 2.56$; NSp: $M = 9.75$, $SD = 3.53$), $t(338) = -1.62$, $p = .106$; manual adherence, $t(305.99) = -1.21$, $p = .23$; or students' attendance, $t(336) = -0.32$, $p = .75$ (see Table 1). Group leaders' manual adherence was 91.6% in the CB condition ($M = 1.83$, $SD = 0.09$, range = 1.60–2.00) and 92.4% in the NSp condition ($M = 1.85$, $SD = 0.12$, range = 1.51–2.00 [2 = 100% adherence]).

At baseline, severity of depressive symptoms on the CDI covered almost the full range of the scale (CDI range = 0–47). Table 2 presents the correlations among the CDI scores at each time point and the means and standard deviations by time point and condition.

Effects of the CB Intervention on Depressive Symptoms

Between-group comparisons. The Time × Condition interaction was significant, $F(8, 478.57) = 3.32$, $p = .001$, indicating that the effect of time on depressive symptom scores differed by condition. Comparisons between the CB condition and each of the two other conditions revealed a significant difference at the 4-month follow-up, such that CDI scores in the CB condition were significantly lower than those in both the NSp ($p = .047$, $g = 0.29$; CI [0.06, 0.52]) and the NIC conditions ($p = .003$, $g = 0.30$; CI [0.07, 0.53]).

Within-group comparisons. Pairwise comparisons within the CB condition revealed that, compared with baseline, CDI scores were significantly higher at postintervention ($p < .001$, $g = -0.41$; CI [−0.18, −0.65]) but significantly lower at the 4-month ($p < .001$, $g = 0.31$; CI [0.07, 0.54]) and 8-month follow-up evaluations ($p = .002$, $g = 0.30$; CI [0.07, 0.53]) and marginally lower at the 12-month follow-up ($p = .074$, $g = 0.22$; CI [−0.01,

Table 2
Estimated Correlations and Means of Children's Depression Inventory Scores by Condition and Time Point

Variable	1	2	3	4	5	CB ($n = 140$) M (SD)	NSp ($n = 151$) M (SD)	NIC ($n = 152$) M (SD)
1. Baseline	—	.44**	.64**	.56**	.49**	10.30 (8.25)	11.38 (8.37)	10.79 (8.83)
2. Postintervention		—	.42**	.42**	.34**	14.55 (12.29)	16.14 (10.88)	12.41 (10.46)
3. 4-month follow-up			—	.70**	.63**	7.86 (7.72)	10.11 (8.02)	10.39 (8.97)
4. 8-month follow-up				—	.62**	7.90 (7.72)	9.21 (8.63)	8.07 (7.94)
5. 12-month follow-up					—	8.40 (8.94)	8.66 (7.82)	8.38 (8.50)

Note. CB = cognitive-behavioral prevention program; NSp = nonspecific control; NIC = no-intervention control.
** $p < .01$.

0.46]), indicating that within the CB condition, depressive symptoms increased from baseline to postintervention but declined significantly from baseline to 4 months and from baseline to 8 months.

Within the NSp condition, pairwise comparisons revealed that, compared with baseline, CDI scores were significantly higher at postintervention ($p < .001$, $g = -0.49$; CI [−0.27, −0.72]) and significantly lower at the 8-month ($p = .002$, $g = 0.26$; CI [0.03, 0.48]) and 12-month follow-ups ($p < .001$, $g = 0.34$; CI [0.11, 0.56]), indicating that youth in the NSp condition experienced a significant increase in depressive symptoms immediately following the intervention and a decrease from baseline in CDI scores by the 8-month follow-up.

Within the NIC condition, pairwise comparisons revealed that relative to baseline, CDI scores were significantly lower at 8 months ($p = .005$, $g = -0.32$; CI [−0.10, −0.55]) and 12 months ($p = .035$, $g = -0.28$; CI [−0.05, −0.50]).

Discussion

In the current randomized control trial, we tested the efficacy of a CB intervention for preventing depressive symptoms in adolescents as compared with a structurally and topically equivalent NSp l and an NIC condition. The between-group analyses revealed that at the 4-month follow-up, adolescents in the CB condition reported significantly lower levels of depressive symptoms (CDI) as compared with youth in both the NSp and the NIC conditions. Within-group analyses indicated that for youth in the CB condition, CDI scores at 4 months were significantly lower than their scores at baseline; depression scores of adolescents in the NSp condition did not decrease significantly from baseline until the 8-month follow-up. In the NIC condition, depressive symptoms showed a significant decrease from baseline to the 8- and 12-month follow-ups. The decline in depressive symptoms across multiple assessments in all three conditions is consistent with other studies that have shown that in normative samples of youth, CDI scores tend to decline over time (Twenge & Nolen-Hoeksema, 2002). Of particular note in the current study was the finding that depressive symptoms declined sooner for youth in the CB group as compared with those in either of the other two conditions. Thus, the significant decline in depressive symptoms in the CB condition at the 4-month follow-up, both compared with the other two control conditions and compared with within group at baseline, indicates that teaching the specific cognitive and social skills, as in the CB program, is useful, at least in the short term, for the prevention of depressive symptoms in adolescents.

Two other important conclusions can be drawn from the current randomized trial. First, the significant effect of the CB program at 4 months was not simply due to common, nonspecific factors (e.g., attention from a supportive adult), at least not those that characterized the NSp condition. Including a nonspecific comparison condition that was equivalent not only in structure and duration but also in content allowed for a more stringent test of the specificity question. Further studies are needed to determine the specific, active processes responsible for the positive effects of the CB prevention program, particularly those related to theoretically derived change mechanisms (e.g., Beck et al., 1979; Dodge, 1993).

A second important finding was that although the CB program had a significant positive effect compared with the NSp and NIC control conditions at the 4-month evaluation, these differences did not persist. The apparent absence of an enduring effect in the current study may have been partially due to the fact that the level of depressive symptoms decreased over time in the NIC condition as well. Prevention studies using universal samples depend on an increase in symptoms occurring in the NIC condition in order to demonstrate that the active intervention actually prevented a normative increase in symptoms (Horowitz & Garber, 2006; Pössel, Horn, Groen, & Hautzinger, 2004). If the level of reported depressive symptoms in the control condition does not increase, or even decreases, over time, then demonstrating the efficacy of an "active" intervention may be difficult and likely will require a larger ES than was found here.

Another possible explanation for differences in the findings of the current study as compared with that of Pössel et al. (2011) may be cultural differences between German and American high schools or the manner in which the original LARS&LISA program was modified for use with youth in the United States. For example, German schools have a school-cohort system in which a class of up to 30 students becomes a cohort within the school, taking all of their courses together. German students usually have most of their friends in one class, perhaps increasing the chance that the lessons learned in a prevention program will continue to be implemented; that is, the positive effects may be sustained as friends continue to talk about the content of the shared program even after it concludes.

In addition, the German LARS&LISA program might have promoted interpersonal relationships by facilitating adolescents' sharing personal thoughts with each other within the smaller and more protected environment of their class (Sukhnandan, Lee, & Kelleher, 2000). Such improved interpersonal relationships may have, in turn, helped the German students cope with stressors that occurred long after the prevention program ended. Indeed, Pössel and colleagues (2003) found that participation in a version of LARS&LISA was associated with an increased reliance on social support in girls and an increase in the reported social networks of boys. Future studies should explore whether the inclusion of and emphasis on a social network component within a CB program might increase the efficacy of the program both immediately and over time.

Cultural differences between German and American schools also might explain why this study did not replicate the findings of Pössel et al. (2011) of a positive effect of LARS&LISA up to 12 months after completion of the program. Studies conducted in the United States have found an increase in magnitude of ESs of prevention programs postintervention to 6-month follow-up but then a decrease in the ES with longer time lags between the end of the prevention program and later follow-up time points (for a review, see Pössel, Schneider, & Seemann, 2006).

Finally, why depressive symptoms increased at postintervention compared with baseline in both the CB and NSp conditions is unclear. Perhaps participation in one of the active interventions increased students' awareness of their problems and recognition of their feelings. Over the 4 months after the intervention, however, adolescents in the CB condition may have had the opportunity to practice and implement their newly acquired skills within the context of real-life problems and thereby experience positive benefits and lower symptom levels at later time points (Pössel et al., 2003). Another possible explanation for the higher scores at the postintervention assessment

for adolescents in both intervention conditions may be that they came to enjoy and value the social aspect, camaraderie, and adult support provided by the groups and thus reported higher depressive symptoms at the postintervention assessment as an expression of their disappointment that the group had ended.

The current RCT had several strengths, including a large sample, assessments across multiple time points over a 12-month period, relatively low attrition (12%), and the use of fidelity checks. Additionally, the CB intervention was theoretically derived (e.g., Beck et al., 1979; Dodge, 1993) and carefully manualized. The inclusion of a structurally equivalent, nonspecific intervention, which also was manualized, allowed us to conduct a strict test of specificity; the no-intervention control facilitated interpretation of group comparisons.

Limitations of this study also should be noted. First, the primary outcome—depressive symptoms—was measured with a single self-report inventory. Previous studies have shown that adolescents are reliable informants about their depression (Inderbitzen, 1994), and depression measured by self-report has high predictive validity (Gotlib, Lewinsohn, & Seeley, 1995). Nevertheless, additional information from other self-report measures, psychiatric interviews, other sources (e.g., teachers, parents, peers), or behavioral observations should be used in future depression prevention trials. Second, given that the intervention might affect other outcomes (e.g., anxiety, behavior problems, functioning), measures of these constructs also should be included. Third, although the dropout rates were not significantly different across the three conditions, a nonsignificant trend indicated that dropouts were more likely to be male and older than those who did not drop out. Therefore, generalizability of the findings to older male adolescents might be limited. Fourth, the theoretical mechanisms of change, such as SIP (Dodge, 1993) or common, nonspecific factors (Imel & Wampold, 2008), were not analyzed. Fifth, although both the CB and NSp conditions were structurally equivalent, thereby controlling for many nonspecific factors as noted earlier, we did not assess whether the interventions were similarly credible for the group leaders and participating students. The NSp condition in the present study, however, met all three criteria cited by Stevens and colleagues (2000) as necessary for establishing the credibility of a nonspecific comparison condition: (a) The number of sessions in both interventions was equal; (b) a positive rationale or expectation for positive outcome was provided; and (c) the nonspecific intervention included a discussion of problems. Nevertheless, without explicitly measuring the plausibility of the interventions used here, we cannot know for certain whether they were perceived to be comparably credible by the group leaders and participants.

In summary, the current RCT indicated that the CB program produced a significant depression prevention effect at 4 months that likely was not due simply to nonspecific factors. Evidence of specificity is considered to be a precursor to expensive dissemination efforts (e.g., Stice et al., 2008); therefore, identification of effective programs that may be suitable for roll-out is now a research priority (Merry et al., 2011). Future studies should identify what specific components of the CB program underlie its short-term effectiveness and determine how best to enhance the CB intervention so that these effects can be sustained.

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