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T. M. Chaplin

Jane Gillham

*Swarthmore College*, [jgillha1@swarthmore.edu](mailto:jgillha1@swarthmore.edu)

K. Reivich

A. G.L. Elkon

B. Samuels

*See next page for additional authors*

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**Authors**

T. M. Chaplin, Jane Gillham, K. Reivich, A. G.L. Elkon, B. Samuels, D. R. Freres, B. Winder, and M. E.P. Seligman



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## Depression Prevention for Early Adolescent Girls:

### A Pilot Study of All Girls Versus Co-Ed Groups

**Tara M. Chaplin,**

Psychology Department, University of Pennsylvania, 3720 Walnut St., Philadelphia, PA 19104

**Jane E. Gillham,**

Psychology Department, University of Pennsylvania, 3720 Walnut St., Philadelphia, PA 19104

**Karen Reivich,**

Psychology Department, University of Pennsylvania, 3720 Walnut St., Philadelphia, PA 19104

**Andrea G. L. Elkon,**

Now at the Medlin Treatment Center, 1235 Eagles Landing Pkwy, Ste. A, Stockbridge, GA 30281

**Barbra Samuels,**

Now at the Department of Psychology, University of California, Los Angeles, 1285 Franz Hall,  
P.O. Box 951563, Los Angeles, CA 90095

**Derek R. Freres,**

Annenberg School for Communication, University of Pennsylvania, 3620 Walnut St., Philadelphia,  
PA 19104

**Breanna Winder,** and

Psychology Department, Swarthmore College, 500 College Ave., Swarthmore, PA 19081

**Martin E. P. Seligman**

Psychology Department, University of Pennsylvania, 3720 Walnut St., Philadelphia, PA 19104

Tara M. Chaplin: tchaplin@psych.upenn.edu; Jane E. Gillham: jgillham@psych.upenn.edu; Karen Reivich: reivich@psych.upenn.edu; Andrea G. L. Elkon: andreaglelkon@yahoo.com; Barbra Samuels: bsamuels@ucla.edu; Derek R. Freres: dfreres@asc.upenn.edu; Breanna Winder: bwinder1@swarthmore.edu; Martin E. P. Seligman: seligman@psych.upenn.edu

## Abstract

Given the dramatic increase in depression that occurs during early adolescence in girls, interventions must address the needs of girls. The authors examined whether a depression prevention program, the Penn Resiliency Program, was more effective for girls in all-girls groups than in co-ed groups. Within co-ed groups, the authors also tested whether there were greater effects for boys than for girls. Participants were 208 11- to 14-year-olds. Girls were randomly assigned to all-girls groups, co-ed groups, or control. Boys were assigned to co-ed groups or control. Students completed questionnaires on depressive symptoms, hopelessness, and explanatory style before and after the intervention. Girls groups were better than co-ed groups in reducing girls' hopelessness and for session attendance rates but were similar to co-ed groups in reducing depressive symptoms. Co-ed groups decreased depressive symptoms, but this did not differ by gender. Findings support prevention programs and suggest additional benefits of girls groups.

## Keywords

gender; adolescence; depressive symptoms; hopelessness; prevention; single-sex groups

During adolescence, depressive symptoms and rates of clinical depression rise dramatically, particularly among girls. The 1-year prevalence of depressive disorders increases from 2% to 3% for 6- to 11-year-olds to 3% to 8% for 11- to 15-year-olds (Angold & Rutter, 1992; Cohen et al., 1993; Hankin et al., 1998). By age 15 to 18, the lifetime prevalence for depressive disorders is 20% to 25% (Hankin et al., 1998; Kessler, Avenevoli, & Merikangas, 2001). This increase is more pronounced among girls than boys beginning in early adolescence (Angold & Rutter, 1992; Cohen et al., 1993; Hankin et al., 1998). Starting at age 13 to 15 and continuing into adulthood, females show 2 to 3 times the levels of depressive symptoms as males (Nolen-Hoeksema & Girgus, 1994; Twenge & Nolen-Hoeksema, 2002). Moreover, adolescent depression and depressive symptoms have serious costs: They are associated with increased risk of smoking, drug use, academic difficulties, and suicide (Covey, Glassman, & Stetner, 1998; Fergusson, Horwood, Ridder, & Beautrais, 2005; Gotlib, Lewinsohn, & Seeley, 1995).

Given the consequences of depression and the greater vulnerability among girls, it is imperative that we examine depression prevention programs to determine what program conditions are most effective for girls in early adolescence (Le, Munoz, Ippen, & Stoddard, 2003). The present study examines whether a depression prevention program, the Penn Resiliency Program (PRP), is more effective for young adolescent girls when delivered in all-girls groups than in co-ed groups.

## DEPRESSION PREVENTION PROGRAMS FOR ADOLESCENTS: GENDER EFFECTS

Based on cognitive theories of depression, cognitive behavioral prevention programs have been developed for adolescents, mainly in the form of co-ed groups (e.g., Clarke, Hawkins, et al., 1995; Jaycox, Reivich, Gilham, & Seligman, 1994). These programs are generally effective in reducing and preventing depression (Clarke, Hawkins, et al., 1995; Clarke, Hornbrook, et al., 2001; Merry, McDowell, Wild, Bir, & Cunliffe, 2004; Spence, Sheffield, & Donovan, 2003). PRP, the program evaluated in the present study, is one such cognitive-behavioral intervention that has shown positive results in preventing depressive symptoms in early adolescence (Cardemil, Reivich, & Seligman, 2002; Gillham et al., in press; Gillham, Reivich, Jaycox, & Seligman, 1995; Jaycox et al., 1994; Yu & Seligman, 2002).

Although these depression prevention programs are promising, their effectiveness may differ depending on the participants' gender. Several studies have found gender differences, with some studies finding co-ed interventions to be more effective for girls and others showing greater effects for boys (Gillham, Shatté, & Freres, 2000). For example, Petersen, Leffert, Graham, Alwin, and Ding (1997) found that early adolescent girls benefited more from their program than did boys, although this effect only lasted from pre- to postintervention. In contrast, Clarke, Hawkins, Murphy, and Sheeber (1993) found early reduction of depressive

symptoms for high-symptom boys but not for girls in their study of a brief co-ed intervention for high school students.

PRP also has shown greater efficacy for boys than for girls. In two studies, co-ed PRP had a greater prevention effect on depressive symptoms for adolescent boys than for girls (Reivich, 1996; Reivich, Gillham, Jaycox, & Seligman, 1996). This difference may have occurred because there was more room for an intervention effect among boys; control group boys in both studies were higher in depressive symptoms at follow-up than control group girls. Nonetheless, the gender difference is important to consider. Reivich (1996) hypothesized that boys may have received greater attention from group leaders than did girls.

If the presence of boys in co-ed interventions detracts from the benefit for girls, all-girls groups may be a promising option. Quayle, Dzuirawiec, Roberts, Kane, and Ebsworthy (2001) tested an all-girls group of PRP with seventh graders in an Australian girls' school. They found significant prevention of depressive symptoms and increases in self-worth by 6-month follow-up, suggesting that all-girls groups are a viable alternative to co-ed groups. However, it remains to be tested whether all-girls groups actually are more effective than co-ed groups for girls.

## POTENTIAL BENEFITS OF ALL-GIRL INTERVENTION GROUPS

There are several reasons that early adolescent girls might benefit more from and be more satisfied with an intervention for depression delivered in a girls group than in a co-ed group. First, girls experience different challenges in early adolescence than boys do, and girls might feel more comfortable discussing these in an all-girls setting than in a co-ed setting. For example, girls are more likely than boys to experience puberty during early adolescence, and stressors associated with puberty (e.g., body changes, hormonal changes, changes in the ways others perceive them) are more strongly associated with depressive symptoms in girls than in boys (Allgood-Merten, Lewinsohn, & Hops, 1990; Brooks-Gunn, 1988; Petersen, Sarigiani, & Kennedy, 1991; Stice & Bearman, 2001; Wichstrom, 1999).

Second, as previously suggested, girls may not receive as much attention as boys do in co-ed group settings. Female students generally receive less attention from teachers when there are male students present (Bailey, 1993; Jones, 1989; Krupnick, 1985), possibly because boys are more likely than girls to call out demandingly in class (Altermatt, Jovanovic, & Perry, 1998). Single-sex settings may help to remedy this. Notably, recent research has found that girls in all-girls schools have higher academic aspirations and achievement than those in co-ed schools (e.g., Lee & Bryk, 1986; Watson, Quatman, & Elder, 2002).

## THE PRESENT STUDY

The present study evaluated the hypothesis that an all-girls depression prevention group in early adolescence would be more effective for girls than a co-ed group. The study used a randomized controlled design to compare co-ed PRP groups, all-girls PRP groups, and a no-treatment control group. We did not include all-boys groups, because past research on PRP showed that co-ed groups were effective for boys. We examined the prevention of

depressive symptoms and two known risk factors for depression: hopelessness (Abela, 2001; Hankin, Abramson, & Siler, 2001) and explanatory style (Garber, Quiggle, & Shanley, 1990; Gladstone & Kaslow, 1995). Also, because we argue that girls may be more satisfied with all-girls groups, we predicted that girls in girls groups would have higher attendance than girls in co-ed groups. Lastly, we expected to replicate previous findings that co-ed PRP would be more effective than the control condition and that co-ed PRP may be more effective for boys than for girls.

## METHOD

### Participants

The sample consisted of 208 students (105 boys and 103 girls) in sixth through eighth grades. Students' ages ranged from 11 to 14 years,  $X = 12.16$ ,  $SD = .89$ . Similar to their community, they were mostly White (88.7%), with 4.1% African American, 1.5% Latino, 1% Asian American, and 4.6% more than one race or ethnicity. Median reported family income was \$100,000 or more per year in 1997, the 1st year of the study.

### Recruitment

Recruitment letters were sent to the parents of all (approximately 1,500) students in two middle schools in a suburban school district in the northeastern United States. There were no restrictions on study participation. Originally, 273 students signed up for the study and completed the preintervention assessment. These students self-selected into the study and, thus, may not be representative of the larger school. However, the sample was demographically similar to the school population.

The sample was stratified by grade, sex, and depressive symptom level and then randomly was assigned to condition using a computer-generated random numbers table. Girls randomly were assigned to girls PRP, co-ed PRP, or the control condition, and boys to co-ed PRP or control. Thirty-eight students assigned to intervention groups were unable to attend the groups because of scheduling conflicts, leaving 234 students who participated through the intervention phase. Twenty-six additional students did not complete the postintervention assessment. This resulted in a final sample of 208 students, with 68 in co-ed PRP (38 boys, 30 girls), 35 in girls PRP, and 105 in the control group (67 boys, 38 girls).

The original study plan called for a 12-month follow-up. However, shortly before this, there was a change in school administrators, and the new administrators discontinued the school's participation in the project. As a result, questionnaires could not be administered at school but were administered through the mail. There was significant attrition; only 40 girls and 25 boys completed the assessment. Because decreased sample size makes the findings less reliable, we do not focus on 12-month results but describe them briefly.

### Study Conditions

Students in the two intervention conditions received the same PRP program; the only difference was that the co-ed groups included both boys and girls, and the all-girl groups contained only girls. The control group did not receive the PRP intervention. Students in all

conditions were free to pursue therapy outside of PRP groups. Parents of 187 students (89.9%) reported on their child's use of counseling or therapy. Of these, 13.4% reported receiving counseling during the PRP intervention period, 25.7% reported counseling prior to PRP, and 61% reported no counseling. These percentages did not differ by intervention condition.

### **The Penn Resiliency Program**

The PRP is a cognitive-behavioral and social problem-solving intervention designed to reduce and prevent depressive symptoms in children and adolescents (for details, see Freres, Gillham, Reivich, Shatté, & Seligman, 2002). The cognitive-behavioral component (Sessions 1 through 5) is based on cognitive theories of depression (e.g., Beck, 1967, 1976; Ellis, 1962; Seligman, 1991). It focuses on teaching adolescents to identify and evaluate pessimistic thoughts by considering alternatives and examining evidence. It also teaches behavioral skills for relaxation and emotion regulation. The social problem-solving component (Sessions 6 through 12) addresses the interpersonal and conduct problems that often co-occur with depression in adolescence (Panak & Garber, 1992; Rudolph et al., 2000). Students are taught skills for assertiveness, decision making, and coping with conflict.

Students receiving the intervention met after school in groups of 9 to 14 students. Groups met for 90 min once a week for 12 weeks. Two group leaders led each group. There were a total of eight co-ed groups (four led by two females, four led by one female and one male) and four girls groups (all led by females). Leaders were school personnel (teachers, guidance counselors) or research assistants. There were no differences between girls and co-ed conditions in whether leaders were school or research staff,  $\chi^2(1, 23) = 2.10, ns$ . All leaders received a week-long training by developers of PRP. Leaders followed a detailed manual and received 1 hr of supervision by developers of PRP once every other week during the intervention phase. Supervisors listened to portions of session audio recordings and provided leaders with immediate feedback on lapses in treatment protocol.

### **Intervention Attendance**

Group leaders were asked to record each student's attendance at each session. Attendance data were not used for two of the eight groups (one co-ed and one girls group), because they had incomplete data, with more than 50% of attendance records missing.

### **Self-Report Measures**

Students completed a set of questionnaires during the school day 2 weeks prior to the intervention (preintervention) and 1 week after the intervention program ended (postintervention). A subsample completed the depressive symptom and explanatory-style questionnaires by mail at 12-month follow-up.

**Depressive symptoms**—Depressive symptoms were assessed with the Children's Depression Inventory (CDI; Kovacs, 1992), a widely used 27-item self-report measure of depressive symptoms during the last 2 weeks. Item 9, which assesses suicidality, was

removed from the questionnaire at the request of school administrators. Items were summed to create a depressive symptom score, with higher scores reflecting greater symptoms.

**Hopelessness**—Hopelessness was assessed with the Hopelessness Scale for Children (HSC; Kazdin, Rodgers, & Colbus, 1986), a 17-item true-or-false measure of negative expectations toward the future, designed for children and adolescents aged 6 to 13 (HSC; Kazdin et al., 1986). An example of an item is “I might as well give up because I can’t make things better for myself.” Items were summed to create the hopelessness score, with higher scores indicating greater hopelessness.

**Explanatory style for negative events**—Explanatory style was assessed with the Children’s Attributional Style Questionnaire (CASQ; Seligman et al., 1984). The CASQ contains 24 positive and 24 negative events for which students chose one of two attributions. For each pair of choices, one of the three attribution dimensions (internal, stable, or global) is varied and the other two are held constant. For the present study, the negative-events composite was used because the intervention focuses primarily on improving explanations for negative events. Higher scores reflect more pessimistic (internal, stable, global) explanations for negative events.

### Power Analyses

The present study had a small sample because it was designed primarily as a pilot study of girls groups. Power analyses indicate that our sample of 30 to 35 participants per condition is sufficient to detect an effect size of about .63 (with a one-tailed alpha and a power of .80), which is a moderate effect size. This effect size is similar to those reported in past research comparing PRP with a no-treatment control group (Cardemil et al., 2002; Gillham, 1994). However, because differences between active interventions are usually smaller, we had limited power for the girls PRP versus co-ed PRP comparisons.

### Statistical Procedures

Analyses were conducted using SPSS 12.0. First, analyses compared girls PRP, co-ed PRP, and control conditions for girls. Second, analyses with both boys and girls tested for an effect of the co-ed intervention and for whether there were gender differences in this effect.

Differences between conditions were analyzed using analysis of covariance (ANCOVA) in which postintervention (or 12-month) scores were predicted from condition, covarying preintervention depressive symptom scores, and preintervention scores on the outcome variable being tested in the analysis. Co-ed intervention analyses additionally examined gender  $\times$  condition interaction effects. When the initial ANCOVAs revealed significant or marginal effects, they were followed with analyses comparing effects by condition. One-tailed significance levels were used for analyses comparing PRP versus control and comparing girls PRP versus co-ed PRP. We used one-tailed tests because we were interested in the added benefit of PRP versus no treatment and of girls PRP versus an established intervention (co-ed PRP). Although there is controversy about the use of one-tailed tests, some researchers believe that they are appropriate in situations in which there is only one direction of effects that is of clinical or societal interest, such as in a trial of a treatment



versus a no-treatment control (e.g., PRP versus control) or of a new treatment versus an existing treatment (e.g., girls PRP versus co-ed PRP). This approach was taken in this study.

For significant intervention effects, Cohen's *d* effect sizes were calculated as the difference in the mean scores for the conditions, after controlling for covariates, divided by the pooled standard deviation (Cohen, 1988).

## RESULTS

### Preintervention Differences

Because there was attrition, analyses were conducted to ensure that intervention and control participants who completed the follow-up assessments were similar on preintervention variables. ANOVA and chi-square analyses showed no significant differences between the conditions (girls PRP, co-ed PRP, control) on any preintervention demographic or outcome variable. This was true for the all-girls sample at postintervention, for the boys and girls sample at postintervention, and for the small sample at 12 months.

### Attrition

There were no differences between students who dropped out of the study and those who had complete data at postintervention or at 12 months on any preintervention questionnaire or demographic measure, with one exception: A higher proportion of ethnic minority students dropped out at postassessment than did Caucasian students,  $\chi^2(1, 252) = 4.41, p < .05$  (37% of minority students and 21% of Caucasian students dropped).

### Inspection and Transformation of Data

Each outcome variable was inspected for normality. The depressive symptom (CDI) and hopelessness (HSC) measures were kurtotic and positively skewed at all assessment points (skewedness and kurtosis *z* scores  $> 1.96$ ). To improve normality of the data, these scores were transformed. We used transformations that were appropriate to the distributions of the two variables: square root transformation for CDI and log transformation for HSC (Tabachnick & Fidell, 2001). Transformations improved the normality of the data (skewedness and kurtosis *z* scores  $< 1.96$ ). Transformed scores were used for analyses, but for ease of interpretation, raw scores are presented in the text and in the table. The explanatory-style measure (CASQ) did not need to be transformed.

### Intervention Effects for Girls

Means and standard deviations on the outcome variables for girls at pre- and postintervention are presented in Table 1.

**Intervention attendance**—As predicted, girls in girls PRP attended a greater number of sessions than did girls in co-ed PRP,  $t(61) = 2.04, p < .05$ . Girls in girls groups attended an average of 7.03 sessions ( $SD = 4.15$ ), whereas girls in co-ed groups attended an average of 5.04 sessions ( $SD = 3.56$ ). Girls' higher attendance was related to decreases in hopelessness. A hierarchical regression was conducted with postintervention hopelessness as the dependent variable, preintervention hopelessness entered in Step 1, and attendance entered

in Step 2. Attendance was significantly related to postintervention hopelessness in this equation ( $\beta = -.265, p < .05$ ). Attendance was not related to any other outcome variable.

**Outcome variables**—As shown in Table 1, PRP significantly reduced depressive symptoms from pre- to postintervention for girls. The initial ANCOVA comparing all three conditions was significant,  $F(2, 99) = 5.90, p < .01$ . Follow-up ANCOVAs showed that girls in both intervention groups reported significantly lower depressive symptoms at postintervention than did girls in the control group, controlling for initial symptoms (for girls PRP vs. control,  $F(1, 70) = 8.73, p < .01$ ; for co-ed PRP vs. control,  $F(1, 65) = 8.64, p < .01$ ). Effect sizes were large; for girls PRP versus control,  $d = -.85$ , and for co-ed PRP versus control,  $d = -.80$ . There was no significant difference in reduction of depressive symptoms between girls PRP and co-ed PRP,  $F(2, 62) = .01, ns, d = .03$ .

Girls PRP significantly reduced hopelessness from pre to postintervention for girls. The initial ANCOVA comparing all three groups approached significance,  $F(2, 92) = 2.40, p < .10$ . Follow-up ANCOVAs showed that girls in girls PRP reported significantly lower hopelessness than did girls in co-ed PRP ( $F[1, 59] = 3.19, p < .05$ ) and girls in the control group ( $F(1, 63) = 3.74, p < .05$ ), controlling for initial hopelessness levels. Effect sizes were moderate; for girls PRP versus co-ed PRP,  $d = -.46$ , and for girls PRP versus control,  $d = -.47$ . There was no significant difference in postintervention hopelessness between co-ed PRP and control,  $F(1, 60) = .01, ns, d = .03$ .

PRP did not significantly affect explanatory style from pre- to postintervention for girls. An ANCOVA comparing the three conditions was not significant,  $F(2, 78) = .47, ns$ .

For girls who completed the 12-month follow-up, findings for explanatory style were significant ( $F[2, 32] = 3.92, p < .05$ ), with girls in girls PRP improving more than girls in co-ed PRP,  $F(1, 19) = 5.75, p < .05, d = -1.07$ , and in control,  $F(1, 23) = 6.13, p < .05, d = -.47$ , and with no differences between co-ed PRP and control,  $F(1, 20) = .04, ns, d = .08$ . Differences between conditions on depressive symptoms at 12 months were not significant,  $F(2, 36) = .33, ns$ . Hopelessness was not assessed at 12 months.

### Intervention Effects of Co-Ed PRP for Boys and Girls

Co-ed PRP significantly reduced depressive symptoms from pre- to postintervention for boys and girls. Co-ed PRP participants reported significantly lower levels of depressive symptoms than did control participants at postintervention, controlling for initial scores,  $F(1, 168) = 12.01, p < .01, d = -.55$ . Co-ed PRP did not significantly affect hopelessness for the co-ed sample at postintervention,  $F(1, 161) = .19, ns, d = -.07$ . There was a nonsignificant trend for the co-ed PRP group to show greater improvements in explanatory style than the control group at postintervention,  $F(1, 143) = 2.54, p < .10, d = -.28$ . Condition X gender interaction effects were tested but were not significant.

In sum, among girls, girls PRP did better than co-ed PRP for hopelessness and attendance; they did not differ for depressive symptoms. Co-ed PRP improved depressive symptoms for boys and girls.

## DISCUSSION

The present study provides support for the use of all-girls groups in depression prevention programs for early adolescent girls. Girls groups were more effective than co-ed groups in reducing young adolescent girls' hopelessness, and girls attended girls groups more often than they attended co-ed groups. Contrary to prediction, girls groups were not more successful than co-ed groups at reducing depressive symptoms; both groups were effective. Furthermore, we found that co-ed groups reduced depressive symptoms, but this effect did not differ by gender. In sum, girls PRP benefitted girls across more outcomes than did co-ed PRP, indicating that girls groups may be important to include in future depression prevention programs.

### All-Girls Groups

Girls PRP produced greater reductions in hopelessness than did co-ed PRP. One reason may be that these early adolescent girls felt more comfortable in the all-girls setting than in the co-ed setting, leading them to share more personal information. Through this process, girls could hear how others have coped successfully with challenges of adolescence, possibly making them more hopeful about overcoming similar problems in the future. Also, girls in single-sex groups may have formed stronger relationships with one another than did those in co-ed groups, leading them to feel less hopeless. Groups of people who are similar to each other are more likely to unite as a group and to form friendships (Clark & Pataki, 1995), and the social support of friendships may buffer adolescents from hopelessness and sadness (Buchholz & Catton, 1999; Slavín & Rainer, 1990; Sroufe, Carlson, Levy, & Egeland, 1999). Unfortunately, we did not evaluate the content or process of the groups. Thus, we cannot be certain that girls groups were more cohesive than co-ed groups, although our finding that girls attended girls groups more often than they attended co-ed groups supports this possibility.

Girls PRP also was more effective for girls than co-ed PRP for decreasing pessimistic explanatory style, but this difference only emerged as significant at the limited 12-month assessment. Similar delayed effects on explanatory style were found in a previous study of PRP, which found no changes in overall explanatory style at postintervention but did find changes at a 12-month follow-up and through a 24-month follow-up (Gillham et al., 1995). The present study further suggests that the delayed effects may be stronger for girls in girls groups than in co-ed groups, although this is speculative, given the small sample size.

Contrary to prediction, the all-girls setting did not lead to greater reductions in depressive symptoms than did the co-ed setting for girls; both were effective at postintervention, and neither was effective at the small 12-month assessment. Girls in both types of groups (girls, co-ed) may have learned the cognitive and behavioral skills taught in PRP. These skills may have led to an initial relief of symptoms that diminished by 12 months. Other research has found this waxing and waning of effects on depressive symptoms. One study found nonsignificant results at 12 months and then significant differences later at 24 months (Gillham et al., 1995). Future research should incorporate strategies to increase the consistency of effects across time, such as booster sessions.

Girls in the all-girls condition attended an average of two more sessions than did girls in the co-ed condition. Early adolescent girls may have been more satisfied with girls groups than with co-ed groups, and they showed their satisfaction by attending more sessions. Greater attendance may have contributed to girls groups' greater efficacy; for example, attendance was associated with decreases in hopelessness in the present study.

### Co-Ed Replication

Co-ed PRP reduced depressive symptoms and tended to reduce pessimistic explanatory style as compared to a no-treatment control group, consistent with past research (e.g., Clarke, Hawkins, et al., 1995; Clarke, Hornbrook, et al., 2001; Gillham et al., 1995). In contrast to previous findings of greater benefits for boys than for girls (e.g., Reivich, 1996), here there were no gender differences in the efficacy of co-ed PRP. Co-ed PRP did not affect hopelessness for boys or for girls, which is not consistent with one study that reported improvements in hopelessness for co-ed PRP (Cardemil et al., 2002).

### Limitations and Future Directions

The present study takes a first step in comparing all girls and co-ed group interventions for depression in early adolescent girls, finding that girls groups were effective across more outcomes than co-ed groups. However, there were limitations. This study used one-tailed tests, and our results for hopelessness would not have been significant at the  $p < .05$  level had we conducted two-tailed tests. Also, the content and process of the intervention sessions were not evaluated. Thus, we can only speculate as to why girls groups were more effective than co-ed groups. Also, the study was based on an upper middle class, predominantly White sample, and therefore, the results may not generalize to adolescents of other income levels or ethnicities. Related to this, minority group adolescents were more likely to drop out of the study than Caucasian youth, highlighting the need for interventions and assessments that are modified for adolescents' social and cultural contexts (Tharp, 1991). Last, the study had a small sample size and high attrition at 12 months, limiting our ability to detect differences between girls PRP and co-ed PRP. For example, future research with larger samples is needed to examine differences between girls PRP and co-ed PRP in depressive symptoms. Despite the limitation of a small sample size in the present study, the study still found important differences between girls and co-ed intervention groups.

Given the marked increases in depression for females during adolescence, depression prevention programs in early adolescence that meet the needs of girls are crucial. The present study suggests that programs delivered in all-girls groups may be particularly effective for girls, possibly more so than co-ed groups.

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Means and Group Differences in Outcome Variables for Girls PRP, Co-ed PRP, and Control Groups

Table 1

Assessment Point	Girls PRP			Co-ed PRP			Control		
	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n
Depressive symptoms (CDI)									
Preintervention	8.75	7.23 <sub>a</sub>	35	7.18	6.15 <sub>a</sub>	30	8.19	7.64 <sub>a</sub>	38
Postintervention	6.02	7.43 <sub>a</sub>	35	4.91	6.29 <sub>a</sub>	30	8.55	7.69 <sub>b</sub>	38
Hopelessness (HSC)									
Preintervention	3.54	2.51 <sub>a</sub>	34	2.68	2.50 <sub>a</sub>	30	3.41	2.12 <sub>a</sub>	38
Postintervention	2.60	2.61 <sub>a</sub>	34	3.11	2.72 <sub>b</sub>	30	3.46	2.80 <sub>b</sub>	34
Pessimistic explanatory style (CASQ)									
Preintervention	7.26	3.13 <sub>a</sub>	35	6.83	2.94 <sub>a</sub>	27	7.12	3.42 <sub>a</sub>	36
Postintervention	6.69	3.56 <sub>a</sub>	29	5.86	3.45 <sub>a</sub>	25	7.44	3.62 <sub>a</sub>	34

NOTE: Means in the same row that do not share subscripts are different from each other at a  $p < .05$  level in analyses of variance (for preintervention rows) and in analyses of covariance (for postintervention rows). PRP = Penn Resiliency Program; CDI = Children's Depression Inventory (Kovacs, 1992); HSC = Hopelessness Scale for Children (Kazdin, Rodgers, & Colbus, 1986); CASQ = Children's Attributional Style Questionnaire (Seligman et al., 1984). CDI analyses used square root transformations and HSC analyses used log transformations. Nontransformed numerical values are reported for ease of interpretation.