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**Influencing Adaptive Functioning in School-Age Children:  
Implementation and Program Evaluation of the Coping Power  
Program**

Aaron Russell

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Influencing Adaptive Functioning in School-Age Children:  
Implementation and Program Evaluation of the Coping Power Program

by

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Presented to the Faculty of the  
Graduate Department of Clinical Psychology

George Fox University

in partial fulfillment

of the requirements for the degree of

Doctor of Psychology

in Clinical Psychology

Newberg, Oregon

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Implementation and Program Evaluation of the Coping Power Program

by

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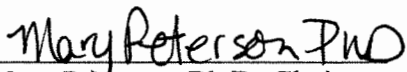
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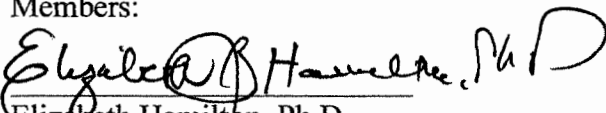
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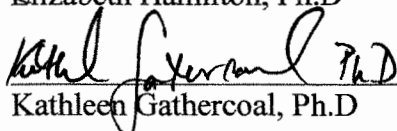
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Influencing Adaptive Functioning in School-Age Children:  
Implementation and Program Evaluation of the Coping Power Program

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Abstract

Up to 20% of children have a diagnosable mental disorder, but only a small percentage of them actually receive treatment. The developmental trajectory of psychopathology suggests that children who show early signs of behavioral or emotional problems are likely to experience a continual increase in those problems as they grow. Caregivers, attempting to seek assistance for their children, must often navigate a complex mental health maze, obtain funding for treatment and negotiate additional treatment barriers. School-based interventions can remove many of these potential treatment barriers. Coping Power (CP), a school-based Empirically Supported Treatment (EST) intervention created by Lochman, Wells, and Murray (2002), is administered over two academic years and includes 48 modules. CP also has a one-year manualized treatment option. Research regarding CP's effectiveness of the one-year intervention program is limited.

This study explores the ability of the abbreviated CP program to increase adaptive functioning and decrease maladaptive behaviors in a heterogeneous 6th grade sample, as measured by child disciplinary referrals and both teacher and child reports from the Behavioral Assessment System for Children-2nd Edition (BASC-2). Overall results showed that CP

participants ( $N = 23$ ) had significant decreases in Somatization scores compared to the non-CP control group ( $N = 29$ ), regardless of group leader.

Results also showed that the CP group leader proved significant in improving students' adaptive functioning (Adaptability, Social Skills, Leadership, Study Skills and Adaptive Skills), while decreasing their maladaptive functioning (Depression, Somatization, Internalizing Problems, Atypicality and overall Behavioral Symptom Index). Clinically experienced leaders generally had greater success in changing student functioning. Contrary to what was hypothesized, CP program involvement did not significantly impact other adaptive or maladaptive behaviors as measured by the BASC-2. Finally, student disciplinary data (referrals, detentions and suspensions) between CP participants and non-CP participants proved insignificant. Implications of these findings and suggested future research are discussed.

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## Chapter 1

### Introduction

#### *Mental Health Problems*

Up to twenty percent of children in the United States have a diagnosable mental disorder, but only a small percentage of these children actually receive the needed interventions (American Psychological Association, 2004; Burns, Gwaltney, & Bishop, 1995; Costello, Horwitz, Angold, Hoagwood, Sparrow, & Triche, 1996). The developmental trajectory of psychopathology suggests that children who show early signs of behavioral or emotional problems are likely to experience a continual increase in those problems as they grow (Cummings, Davies, & Campbell, 2000). Caregivers, attempting to seek assistance for their children, must often navigate a complex mental health maze with limited skills and resources. The inability to access reliable and relevant treatment information, obtain the funds for treatment, and negotiate transportation issues, may present insurmountable barriers as they try to meet their child's needs. Work by Kataoka, Zhang, & Wells (2002) suggests that 80% of children and adolescents with mental health issues are unable to receive the care they desperately need.

This astounding number may continue to increase (or at least maintain current trends) as federal, state and county agencies fight to resolve budget cuts and shortfalls (Boyle, 2005; Schwinn, 2004). Because of budget shortages, youth treatment options might reasonably be

expected to continue to decrease. However the desire of these agencies and those working for them remains: to assist youth as they address their mental health difficulties and help them become empowered as independent and fully-functioning adults.

Exacerbating the mental health concerns facing children and adolescents are the additional stressors of poverty, changing family structures, substance abuse and violence, to name a few (Peterson & Hamilton, 2004). Poor behavior scores received in the 6<sup>th</sup> grade are a significant predictor of later drop-out rates, as only 17% of students with a poor 6<sup>th</sup> grade behavior score will actually complete high school on time or within one additional year (Balfanz & Herzog, 2005). The gap between “achievers” and “non-achievers” continues to widen as non-achievers, often labeled “at-risk youth,” from urban, suburban and rural locales, are facing even greater challenges:

[They are] young people who are functionally illiterate, disconnected from school, depressed, prone to drug abuse and early criminal activity, and eventually, parents of unplanned and unwanted babies. These are children who are at high risk of never becoming responsible adults. (Dryfoos, 1990, p.3).

At the same time, children with mental disorders are coping with a variety of environmental stressors, as their brains are maturing and undergoing profound changes. The maturation of the brain in late childhood results in improved cognitive skill sets and social functioning. Youth are trying to negotiate an immensely complex social environment: At the same time they are bombarded with peer pressure and demands by the media, the Internet, parents and schools. An already complex life stage becomes even more daunting when they must navigate these challenges while suffering from a mental disorder. The obstacles these youth face becomes monumental.

Aggressive attitudes and behaviors often surface as internal and external stressors mount. While absolute rates of aggressive behavior decline in normative samples after age two, aggressive behavior remains a stable individual difference variable from age two through the early childhood years (Boxmeyer, 2005). Additionally, aggressive behavior during early childhood predicts adolescent delinquency, substance use, school problems, teenage pregnancy and a host of other negative outcomes (Boxmeyer, 2005; Dryfoos, 1990; Lochman, Wells, & Murray, 2007; Lochman, Beidel, Brown, & Haaga, 2003; Lochman & Wells, 2004; Nagin, Farrington, & Pogarsky, 1997). Factors perpetuating the development of aggressive behavior include biology and temperament components, family context (parenting style, SES), neighborhood context (supportive vs. nonsupportive), peer context (positive peers vs. negative peers) and finally, late emerging social cognitive processing and emotional regulation within the child (Coie & Dodge, 1998; Hawkins, Catalano, & Miller, 1992; Loeber & Farrington, 2001; Luthar & Cushing, 1999; Patterson, Reid, & Dishion, 1992; Pennington, 2002; Shaw, Vondra, Hommerding, Keenan, & Dunn, 1994). These interwoven factors gradually accumulate between the ages of six and eleven years old. After age eleven, a child already possessing negative cognitive and behavioral factors is even more likely to have serious delinquency, substance use, and problems at school (Loeber & Farrington, 2001). Bullis, Walker, and Sprague (2001) suggest that during the middle school period, adolescents are prone to greater risk-taking behaviors, while parental supervision simultaneously declines. This critical period, between nine and twelve years of age, creates a trajectory of aggressive behavior and delinquency for developing youth.

### *Psychosocial Interventions*

Knowing some of the detrimental factors leading to possible future mental health problems, the question becomes not whether to intervene, but how best to provide the most

effective and sustainable treatment benefits. The meta-analyses completed by Hoag & Burlingame (1997) and Roberts, Lazicki-Puddy, Puddy, and Johnson (2003) suggest psychosocial interventions are clinically efficacious and significantly alter the negative trajectory for a variety of psychological problems. School-based interventions are a particularly attractive option because they “have access to high risk cases, the availability of potential helping resources (e.g., counselors, teachers, social workers), and easier placement of the child in an intervention (Allen, Chinsky, Larcen, Lochman, & Selinger, 1976; Coie, Rabiner, & Lochman, 1989; Lochman, Lampron, Gemmer, & Harris, 1987)” (Lochman, Dunn, & Klimes-Dougan, 1993, p. 2). These interventions are easily accessible to at-risk children, utilize existing network resources, remove additional treatment barriers related to lack of familial resources, and do it all in a potentially more cost-effective manner. Burns et al. (1995) suggest that youth who require intervention are often only able to access mental health resources, services and treatments available in their school settings.

School-based intervention programs are also particularly appealing because additional research demonstrates “efficacy across a range of emotional and behavioral disorders, particularly when services are developmentally specific (Greenberg, Domitrovich, & Bumbarger, 2001; Hoagwood & Erwin, 1997; Rones & Hoagwood, 2000)” (Peterson & Hamilton, 2004, p. 2). Roberts et al. (2003) also emphasized tailoring preadolescent and adolescent psychotherapy treatments to a client’s developmental age; doing so avoids “loosely and inappropriately” applying an adult or child intervention.

Preventive school-based intervention programs are in abundance throughout the United States, some have been shown to be effective (Henry, 2000) and others not (Hawkins et al., 1992). Those that are not effective are usually described as “too fragmented,” “not targeting the

appropriate children” and “not creating change” either in individuals exhibiting the behavior or in institutions responsible for the environment where the behavior is learned (Dryfoos, 1990). Additionally, where interventions showed improved outcomes, relapse was likely shortly after the program’s completion (Tolan & Guerra, 1994; Wolf, Braukmann, & Ramp, 1987). A well-constructed, carefully integrated, non-fragmented, and empirically supported treatment (EST) intervention is demanded to avoid past weaknesses in existing intervention programs.

The work of Nation et al. (2003), as quoted from the APA Public Policy Office webpage (American Psychological Association, 2004), provides a comprehensive and detailed description of an “effective” prevention program. Effective programs are characterized by: (a) a comprehensive array of interventions to address the salient precursors or mediators of the target problem; (b) varied teaching methods, including interactive and hands-on instruction; (c) opportunities for children to develop strong, positive relationships appropriately timed for maximal impact; (d) sufficient exposure to the intervention; (e) culturally tailored language translation; (f) well-trained and supported staff; (g) outcome evaluation; (h) research based and theory driven.

Empirically supported treatments should rest heavily on theoretical constructs that underline how youth process, adapt and learn, so that youth become more socially adjusted, less aggressive, and psychologically healthier. Preventive interventions should address the malleable factors, particularly the child’s Social Cognitive Processing (SCP) and emotional regulation (Boxmeyer, 2005). The SCP model, addresses both child perception as well as malleable factors within the context of the child’s environmental, biological and stored memory. It is also important to assess pro-social factors that may change, beyond just reductions in problematic symptoms and behaviors (Atkins, Graczyk, Frazier, & Abdul-Adil, 2003).

Successful interventions for children and adolescents are also developmentally appropriate, accessible and use group therapy as part of its intervention. Improvements in social interaction and coping skills (Edwards, Gfroerer, Flowers, & Whitaker, 2004) anger management (Lochman et al., 1993) and drug and alcohol prevention (Schaefer, 1999) have all benefited from the use of group or peer intervention. Hoag and Burlingame's (1998) meta-analysis of 56 studies between 1974 and 1997 also documented the importance of group therapy with youth populations. Group therapy is a powerfully effective component and should be incorporated in an empirically supported treatment designed specifically for youth.

In sum, successful school-based interventions have a variety of common characteristics, which include the use of established theoretical frameworks (e.g., SCP model, etc.), specific targeted interventions, manualized treatments, outcome assessments and the added recommendations of Nation and colleagues (2003). Ultimately these interventions must actively target the at-risk and potentially at-risk children, effectively providing sustainable improvements in their psychological, social and behavioral health in a cost-effective manner.

### *Coping Power Program*

One empirically supported treatment meeting many of these successful intervention demands is the Coping Power Program (CPP), which was created by Drs. John Lochman, Karen Wells and Maureen Murray in the 1990's. CPP operates from a well-established theoretical framework (i.e., SCP), while using a manualized treatment delivery targeting a specific area of intervention. Furthermore, CPP addresses typical areas needing improvement in aggressive youth and is a program possessing outcome measures showing promising results for reducing delinquency, school-based aggressive behavior and substance abuse (Lochman & Wells, 2004; Lochman, Wells, & Murray, 2007; Lochman et al., 2003).

The CPP intervention program is a contextual social-cognitive model of childhood aggression geared for pre-middle school and middle school aged children (Lochman & Wells, 2002). Knowing high-risk adolescents have shown social cognitive processing errors in cue encoding, hostile attributional biases and distorted perceptions of self and others in conflict situations, CPP attempts to improve a child's social competence, self-regulation, self-control and social bonds with peers, teachers and caregivers (Lochman & Wells, 2002). Deficiencies in these areas have shown strong correlation with later dropout rates (Balfanz & Herzog, 2005) and increases in destructive behaviors as the children age (Cummings, Davies, & Campbell, 2000). The degree to which children are socially competent is directly related to their success with peers and adults; this social competence, or its lack, can predict future social failures and successes (Beitchman et al., 1996; Elias, Gara, Schuyler, Branden-Muller, & Sayetter, 1991; Howes, 1987; Perry, Guidubaldi, & Kehle, 1979).

CPP attempts to address children's deficiencies through a two-year intervention program involving the child, parent(s) and school system. CPP's first year ideally begins prior to the child's transition to middle school, followed by a second year during the child's actual first year in middle school. CPP treatment providers are trained school counselors, guidance counselors, psychologists, social workers, graduate students or other mental health community resources. CPP incorporates individual counseling sessions, weekly group meetings and monthly parent meetings. All of the above are noted strengths of CPP and they appear well-rooted and formulated from the breadth of adolescent intervention literature.

At present, the CPP program is being implemented in more diverse communities through the United States as well as in other parts of the world. Results from these additional studies are still being analyzed and have not yet been published. However, one noticeable gap in the current



research involves the use of the shorter CPP (one-year program) and whether or not it will produce similarly positive outcomes as its longer two-year program. A more relevant question may be, does this shorter CPP version positively influence children's adaptive behavior and functioning as measured by teacher report, the child's perception of behavior and their actual behavioral referrals? This is the core of this dissertation research: Does the Coping Power Program (one-year program) influence adaptive functioning and/or maladaptive behaviors in a heterogeneous 6<sup>th</sup> grade sample, as measured by child disciplinary referrals, BASC-2 teacher and child reports?

This research implemented CPP with 6<sup>th</sup> graders from two middle schools in Yamhill County, Oregon, taking the highest risk 6<sup>th</sup> grade students from both junior high schools and randomly assigning them to either the CPP intervention or control group. The hypothesis is that students participating in the treatment will, relative to the control group, show decreases in maladaptive behavior and increases in adaptive functioning as indexed by: a) decreases in discipline behavior (referrals, detentions, and suspensions) and, b) increases in adaptive functioning or decreases in maladaptive functioning based on subdomains within both the child and teacher Behavioral Assessment System for Children-2<sup>nd</sup> Edition (BASC-2) forms.

## Chapter 2

### Method

#### *Participants*

A total of 61 sixth graders from two middle schools located in Yamhill County, Oregon, were identified for the Coping Power (CP) intervention. These participants were selected based on 5<sup>th</sup> grade teacher nomination of students' overall classroom behavioral score. Scores ranged from one (low behavioral problems) to three (major behavioral problems). Nominations were not screened for learning disorder, psychological disorders, mental retardation or pervasive developmental disorders.

#### *Procedure*

The 61 participants were randomly assigned to either the control group ( $N = 31$ ) or the CP intervention group ( $N = 30$ ). The parent(s)/legal guardian(s) of the children selected for the intervention were contacted. Informed consent was obtained prior to the start of the intervention and data collection, and parents were fully informed of the nature of the study.

The intervention group ( $N = 30$ ; males = 22, females = 8) was then randomly divided into six smaller treatment groups, each consisting of no fewer than three members and no more than six. Four CP trained professionals lead the six groups. Two of the four group leaders were licensed psychologists, while the remaining two were master's level clinicians. The children

received a preliminary overview discussion prior to the program commencing and a pre-intervention BASC-2 (participant self report) was administered to each child. Classroom teachers who taught a “core” class supplied pre and post-intervention BASC-2 reports (teacher report form) on each experimental and control participant in the study.

All six experimental groups met once a week during the participants’ school lunch period (30-45 minutes), however two CP groups had to be rotated every other week between meeting at lunch or meeting during class time prior to lunch. The CP intervention began during the fall 2005 academic school year and continued throughout that school calendar year.

The intervention program selected for this study was Coping Power (Lochman et al., 2007). CP operates from a well-established theoretical framework through the use of its manualized treatment delivery. Additionally, CP integrates and targets “social and cognitive components across the domains of social competence, self regulation, school bonding and caregiver involvement” (Peterson & Hamilton, 2004, p.4) into a cohesive school-based intervention program model. CP possesses outcome measures showing promising results for reducing delinquency, school-based aggressive behavior and substance abuse, while also enhancing young peoples’ protective factors (Lochman & Wells, 2004; Lochman, Wells, & Murray, 2007; Lochman et al., 2003).

The 1-year CP involves 24 participant group sessions and 10 parent sessions. Because CP is a manualized program, each CP group leader followed its protocol. Bi-monthly supervised meetings occurred, facilitating accuracy of CP delivery. Individual sessions (six maximum) also occurred between each CP participant and their group leader. Finally, each of the group leaders attended a two-day CP training workshop providing an opportunity to consult and troubleshoot potential implementation issues.

The outcome measures used involved a self-report by CP participants, teacher reports and disciplinary data (referrals, detentions, and suspensions) throughout the academic calendar in which CP was incorporated. Participants and their teachers completed the Behavior Assessment System for Children-2 (BASC-2) prior to and following the completion of the CP intervention. The control group did not complete BASC-2 self-report forms. Because of the BASC-2's familiarity to our school personnel, its short administration time, psychometric properties, and its ability to assess both risk factors and adaptive skills it was selected as the outcome measure tool.

### *Instruments*

*The Behavior Assessment System for Children-2 (BASC-2)* (Reynolds & Kamphaus, 2004) was used to assess the behavior and self-perception of children and young adults (2-25 years of age). It is a "multimethod" as well as "multidimensional" system in that it "measures numerous aspects of behavior and personality, including positive (adaptive) as well as negative (clinical) dimensions" based on two rating scales (one parent and one teacher) which include observable behavioral descriptions, student self report, and a structured developmental history form (American Guidance Services, 2006).

The teacher response BASC-2 consisted of 139 items about the participant's observable behavior. The items were rated on a Likert scale defined as N = Never, S = Sometimes, O = Often and A = Always. The student BASC-2 child version had 139 items while the adolescent version had 176 items. Both the Child and Adolescent BASC-2 forms had the similar Likert scale as the teacher form, however there were also True/False response items. Completion time for the forms ranged from 10 minutes to 30 minutes.

The BASC-2 was normed on 4,650 instructors for the teacher form and 3,400 child/adolescents for the self-report forms. These individuals were selected from 375 testing sites

throughout the United States. Reliability, namely internal consistency on the Teacher Form, is particularly good for Composites (.90-.97) and Scales (.81-.95) for age ranges between eight and fourteen years old. Test-retest data for the child age bracket (eight to eleven years of age) is .84-.93 for the Composites and .74-.90 for the Scales. The adolescent (12-21 years of age) test-retest data is .81-.92 for the Composites and .64-.90 for the Scales. Interrater Reliabilities scores have Composites of .52-.65 and Scales of .23-.74 for the Child BASC-2 and Composites of .48-.70 and Scales of .19-.82 for the Adolescent BASC-2. The Self Report (ages eight to fourteen) BASC-2 forms have an Internal Consistency of .84-.96 for the Composites and .67-.88 for the Scales. Test-retest for this same age range is .74-.84 for Composites and .61-.84 for the Scales.

As for validity features of the BASC-2, the structure of the scales and composites were based on factor analysis of each item. Content validity came from teachers, parents, children, psychologists, DSM-IV-TR criteria and “other instruments” (American Guidance Services, 2006). Concurrent validity was based on “groups of children with preexisting clinical diagnoses tending to have distinct BASC-2 profiles” (American Guidance Services, 2006). The Teacher BASC-2 form was correlated with seven other similar teacher report rating forms in existence (i.e., ASEBA, BASC, & CTRS-R). The self-report BASC-2 was correlated with eight similar self-report rating forms (i.e., ASEBA, CASS, MMPI-2, BDI-II). For additional BASC-2 technical information contact American Guidance Services directly or visit their website: <http://agsnet.com/assessments/technical/basc2.asp>.

*School Disciplinary Data.* Beyond the teacher and self-report BASC-2s, school disciplinary data were collected for the CP intervention group as well as the control group during the academic year. The date and nature of each disciplinary action taken were documented and coded within three severity domains (e.g., referrals, detentions or suspensions). Excessive

tardiness or absences were coded as referrals, while physical aggression towards teacher or other students, which resulted in school suspensions, were recorded as suspensions. Verbal aggression, destruction of property, excessive referrals and etc were coded as detentions.

## Chapter 3

### Results

This study explored the ability of the abbreviated CP program to increase adaptive functioning and decrease maladaptive behaviors in a heterogeneous 6th grade sample, as measured by child disciplinary referrals and both teacher and child reports from the Behavioral Assessment System for Children-2nd Edition (BASC-2) (Reynolds & Kamphaus, 2004).

Screening information, demographic data, school disciplinary behavior reports and BASC-2 data (pre- and post-testing) were collected for the majority of the participants. Retention rate for those participating the study was good; four participants out of the 61 selected to discontinue with the study. Response rates for Teacher BASC-2 were exceptionally good, as all but four post BASC-2s were not submitted. Only two CP student self-report BASC-2s (one child form and one adolescent form) were not received. These above participants were removed and not calculated into the final analysis. Therefore, the final sample size for data analysis was 52 (CP group = 23; non-CP group = 29). Removing the four participants whose birth dates were not obtained, the mean age of all the remaining participants was 11.50,  $SD = .46$ . Of the 52 participants, 33 were males and 19 were female. 83% were Caucasian, 4% were Hispanic, 2% were African-American, and 6% were some other ethnicity. The remaining 5% of participants chose not to disclose their ethnicity. Table 1 shows sample sizes, mean ages and standard deviations for each BASC-2 measure.

Table 1

*Demographic Information Based on Child, Adolescent and Teacher BASC-2*

<b>Child BASC-2</b>	<b>Gender</b>	<b>N</b>	<b>N from School A</b>	<b>N from School B</b>	<b>Mean Age</b>	<b>SD</b>
	CP Males	10	7	3	11.42	0.32
	CP Females	3	3	0	11.25	0.71
	Total	13	10	3	11.38	0.38
<b>Adolescent BASC-2</b>	<b>Gender</b>	<b>N</b>	<b>N from School A</b>	<b>N from School B</b>	<b>Mean Age</b>	<b>SD</b>
	CP Males	8	2	6	11.78	0.13
	CP Females	5	0	5	11.52	0.95
	Total	13	2	11	11.68	0.57
<b>Teacher BASC-2</b>	<b>Gender</b>	<b>N</b>	<b>N from School A</b>	<b>N from School B</b>	<b>Mean Age</b>	<b>SD</b>
	CP Males	15	9	6	11.57	0.27
	CP Females	8	3	5	11.45	0.84
	CP Total	23	12	11	11.53	0.51
	NonCP Males	18	11	7	11.45	0.42
	NonCP Females	11	8	3	11.54	0.40
	NonCP Total	29	19	10	11.48	0.41

Additionally, interaction effects of participants' gender, age and ethnicity were also examined using Teacher BASC-2 Reports. Gender had no significant effect between groups or within groups, nor did participants' age. Examining ethnicity revealed that the two Hispanic participants, one CP and one non-CP, had greater improvement on a number of BASC-2 domains compared to their Caucasian ( $N = 43$ ), African-American ( $N = 1$ ), and Other ethnicity ( $N = 3$ ) counterparts at post-testing. However having such small sample sizes limits generalization and therefore these findings will not be discussed further.

*Child BASC-2 Self-Report Results*

A series of paired sample t-tests were conducted evaluating the difference in Child BASC-2 domain scores for CP participants. The 13 (10 males, 3 females) CP participants were



administered this form version and their mean age was 11.38, with a *SD* of .38. non-CP participants did not fill out this form. Statistical significance was not found for any of the 19 BASC-2 domains. Therefore, CP involvement had no significant effect on child BASC-2 self-report domains.

#### *Adolescent BASC-2 Self-Report Results*

A series of paired sample *t*-tests explored the difference in Adolescent BASC-2 domain scores for CP participants. One CP Adolescent BASC-2 Self-Report forms was not received, therefore the final CP sample size consisted of 13 participants (8 males, 5 females). Their mean age was 11.68, with a *SD* of .57. Similarly, non-CP adolescent participants did not fill out this form. Using paired sample *t*-tests, each of the 21 BASC-2 domains was analyzed. Statistical significance was not found for any of the 21 domains. Therefore, CP involvement had no significant effect on adolescent BASC-2 self-report domains.

#### *Teacher Report BASC-2 Results*

To examine the relationship between CP and a child's overall improvement change scores across the pre and post Teacher BASC-2 domains were computed. These change scores in maladaptive and protective BASC-2 domains provided a final difference score for both CP and non-CP participants; inferential statistics were applied to the difference score in each domain. A decrease in maladaptive behavior, such as hyperactivity or aggression, between pre-Teacher BASC-2 and post-Teacher BASC-2 were seen as an improvement in a particular BASC-2 domain. Similarly, an increase in a maladaptive behavior domain at post Teacher BASC-2 testing suggests a worsening of participant's behavior. On protective BASC domains (e.g., study skills, family communication, etc.) the inverse relationship holds true. An increase in post

Teacher BASC-2 testing for adaptive domains suggests a strengthening of pro-social traits in participants.

A sequence of oneway ANOVAs were run for both CP and non-CP participants to explore possible group variations based on BASC-2 Teacher Report difference scores for each participant. An initial descriptive analysis and Levene's tests were computed, revealing that the group composition of CP and non-CP were respectively similar at the study's outset for all BASC-2 domains.

Overall results showed that Somatization scores decreased for CP participants,  $F(1, 49) = 4.28, p = .04$  (Table 2 & Figure 1). CP participants ( $N = 22$ ) showed significant decreases compared to the non-CP control group ( $N = 29$ ) regardless of variables like group leader, school attended, participant's gender, age or ethnicity. Cohen's  $d$  was -0.58 indicating a medium effect size. CP involvement significantly affected a participant's Somatization scores, but contrary to what was hypothesized, CP involvement did not significantly impact other adaptive or maladaptive participant behaviors as measured by the BASC-2 Teacher Reports.

Table 2

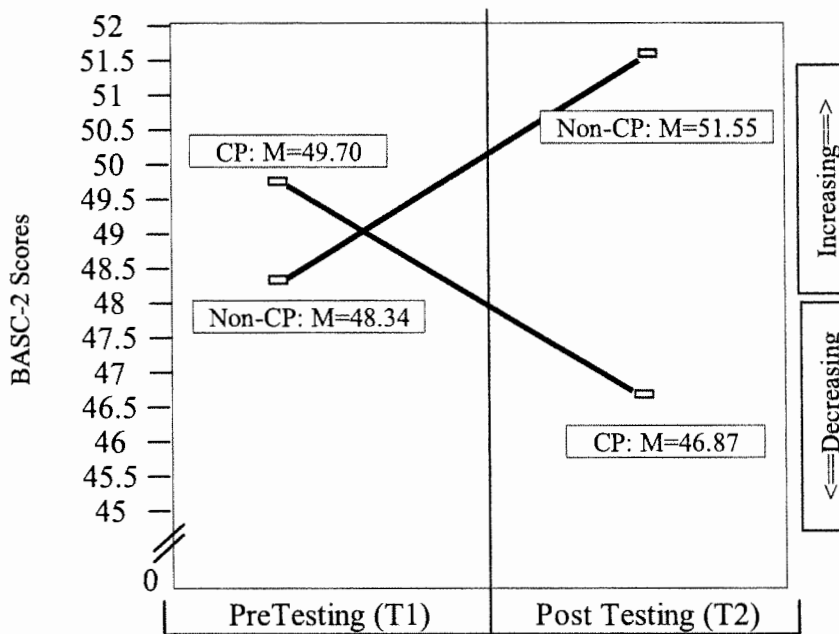
*Analysis of Variance for Somatization Scores from BASC-2 Teacher Report*

Source	<i>df</i>	<i>F</i>	$\eta^2$	<i>p</i>	Observed Power
Between subjects					
Somatization	1	4.28*	0.08	0.04	0.53
Within Group Error	49	[110.85]			

Note: Values in parentheses represent mean square

\* $p < .05$

Figure 1: BASC-2 Teacher Report Somatization Scale



Although not hypothesized at the outset of this study, oneway ANOVAS were conducted to analyze any main effects for group leader. Results showed that the CP group leader proved significant in improving students' adaptive functioning (Adaptability, Social Skills, Leadership, Study Skills and Adaptive Skills) (see Table 3), while decreasing their maladaptive functioning (Depression, Somatization, Internalizing Problems, Atypicality and overall Behavioral Symptom Index) (see Table 4). CP participants lead by group leader A (Psychology PhD clinician) showed significant improvements as compared to CP participants lead by group leader B (Psychology PhD clinician), group leader C (Psychology MA clinician) or group leader D (Psychology MA clinician), as well as the non-CP participants. Effect sizes for the five significant adaptive domains improving are listed in Table 3, while effect sizes for the five maladaptive domains decreasing are listed in Table 4. Clinically experienced leaders generally had greater success in changing student functioning, particularly group leader A in this study.

Table 3

*Group Leader A's Effect on Adaptive Functioning Scales as Measured by BASC-2 Teacher Report*

Variable	n	M	SD	Mean Difference		
				(GL A-other GLs)	Sig	d
<b>Leadership</b>						
Group Leader A	5	10.00	8.75	--	--	--
Group Leader B	5	-2.20	4.77	12.20	0.002	1.73
Group Leader C	4	-5.50	5.97	15.50	0.000*	2.07
Group Leader D	9	-1.22	3.63	11.22	0.002	1.68
Non-CP	29	0.28	6.02	9.72	0.002	1.28
<i>F(4,47)=4.58, p&lt;.05, p=.003, h<sub>p</sub><sup>2</sup> = .280</i>						
Study Skills	n	M	SD	Mean Difference		
				(GL A-other GLs)	Sig	d
Group Leader A	5	8.00	5.70	--	--	--
Group Leader B	5	-5.20	6.76	13.30	0.002	2.11
Group Leader D	9	-0.33	4.69	8.33	0.022	1.50
Non-CP	29	1.76	6.83	6.24	0.047	0.99
<i>F(4,47)=3.01, p&lt;.05, p=.027, h<sub>p</sub><sup>2</sup> = .204</i>						
Social Skills	n	M	SD	Mean Difference		
				(GL A-other GLs)	Sig	d
Group Leader A	5	17.60	11.55	--	--	--
Group Leader B	5	-2.20	9.12	19.80	0.000*	1.90
Group Leader C	4	2.75	4.86	14.85	0.005	1.68
Group Leader D	9	-0.22	3.49	17.82	0.000*	2.09
Non-CP	29	-1.10	7.75	18.70	0.000*	1.90
<i>F(4,47)=6.85, p&lt;.05, p=.001, h<sub>p</sub><sup>2</sup> = .368</i>						
Adaptive Skills	n	M	SD	Mean Difference		
				(GL A-other GLs)	Sig	d
Group Leader A	5	13.80	13.12	--	--	--
Group Leader B	5	0.40	3.20	13.40	0.020	1.40
Group Leader C	4	0.50	3.42	13.30	0.028	1.39
Group Leader D	9	-1.33	4.36	15.13	0.003	1.55
Non-CP	29	-0.10	9.80	13.90	0.002	1.20
<i>F(4,47)=2.95, p&lt;.05, p=.03, h<sub>p</sub><sup>2</sup> = .201</i>						
Adaptability	n	M	SD	Mean Difference		
				(GL A-other GLs)	Sig	d
Group Leader A	5	12.20	9.01	--	--	--
Group Leader B	5	-2.80	6.83	15.00	0.001	1.88
Group Leader C	4	0.75	5.25	11.45	0.012	1.55
Group Leader D	9	-0.56	2.92	12.76	0.001	1.91
Non-CP	29	0.10	6.93	12.10	0.000*	1.51
<i>F(4,47)=4.36, p&lt;.05, p=.004, h<sub>p</sub><sup>2</sup> = .271</i>						

Note: p&lt;.001\*

Table 4

*Group Leader A's Effect on Maladaptive Functioning Scales as Measured by BASC-2 Teacher Report*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Mean Difference (GL A-other GLs)	<i>Sig</i>	<i>d</i>
<b>Depression</b>						
Group Leader A	5	-20.40	15.08	--	--	--
Group Leader B	5	-1.20	5.89	-19.20	0.021	-1.68
Group Leader C	4	2.75	9.71	-23.15	0.009	-1.83
Group Leader D	9	-2.89	5.30	-17.51	0.017	-1.55
Non-CP	29	0.14	14.69	-20.54	0.002	-1.38

$$F(4,47)=2.97, p<.05, p=.029, h_p^2 = .202$$

Somatization	<i>n</i>	<i>M</i>	<i>SD</i>	Mean Difference (GL A-other GLs)	<i>Sig</i>	<i>d</i>
Group Leader A	5	-14.60	13.13	--	--	--
Group Leader B	5	-1.00	5.03	-13.60	0.042	-1.37
Group Leader C	4	7.25	8.62	-21.85	0.002	-1.97
Group Leader D	9	-1.89	8.84	-12.71	0.023	-1.14
Non-CP	29	3.21	9.82	-17.81	0.000*	-1.54

$$F(4,46)=4.25, p<.05, p=.005, h_p^2 = .270$$

Internalizing Problem	<i>n</i>	<i>M</i>	<i>SD</i>	Mean Difference (GL A-other GLs)	<i>Sig</i>	<i>d</i>
Group Leader A	5	-20.80	14.41	--	--	--
Group Leader B	4	-1.50	5.45	-19.30	0.006	-1.77
Group Leader C	4	3.00	8.12	-23.80	0.001	-2.04
Group Leader D	9	-4.33	6.08	-16.47	0.005	-1.49
Non-CP	29	-0.41	10.80	-20.39	0.000	-1.60

$$F(4,46)=4.79, p<.05, p=.003, h_p^2 = .294$$

Atypicality	<i>n</i>	<i>M</i>	<i>SD</i>	Mean Difference (GL A-other GLs)	<i>Sig</i>	<i>d</i>
Group Leader A	5	-12.60	9.10	--	--	--
Group Leader C	4	5.25	12.58	-17.85	0.033	-1.63
Group Leader D	9	1.44	6.44	-14.04	0.025	-1.78
Non-CP	29	5.28	13.39	-17.88	0.002	-1.56

$$F(4,47)=2.70, p<.05, p=.042, h_p^2 = .187$$

BSI	<i>n</i>	<i>M</i>	<i>SD</i>	Mean Difference (GL A-other GLs)	<i>Sig</i>	<i>d</i>
Group Leader A	5	-14.00	11.73	--	--	--
Group Leader B	5	-0.20	3.13	-13.80	0.022	-1.61
Group Leader C	4	0.25	5.80	-14.25	0.025	-1.54
Group Leader D	9	-0.67	4.15	-13.33	0.012	-1.52
Non-CP	29	0.29	10.64	-14.29	0.002	-1.28

$$F(4,46)=2.65, p<.05, p=.045, h_p^2 = .187$$

p<.001\*

Also not hypothesized at the study's outset, but examined during data analysis was participants' school attended effecting outcomes. School was held constant and results suggest that middle school A had students who significantly improved on Adaptability and Functional Communication, as compared to middle school B, when Test of Homogeneity of Variances was met. When Homogeneity was not met, middle school A also showed significant improvement in additional adaptive domains of Social Skills, Study Skills and the composite Adaptive Skills score (Table 5).

Observing that the school participants attended affected outcome results, individual teacher response patterns were also examined (Table 6). One-way ANOVAs showed teacher perceived student improvements in Study Skills were significantly,  $F(8,43) = 4.25, p = .001$ , affected by which teacher(s) were reporting. Teacher 1, from middle school A, had students significantly increasing in their Study Skills as compared to students having Teacher 3, Teacher 4, Teacher 5, Teacher 6 or Teacher 7. Additionally, Teacher 2, also from middle school A, had students significantly increase in their Study Skills as compared to students having Teacher 3.

While there were no other significant differences between teachers on other BASC-2 domains, Study Skills, unfortunately, was affected by Teacher 1 and 2 reporting. It appears these two teachers rated their students increasing in Study Skill development, far greater than most other teachers. Should a CP or non-CP student be in either of these two teachers' classrooms, Study Skills would be perceived as increasing significantly.

#### *Disciplinary Measures Results*

Finally, student disciplinary data (referrals, detention, suspensions) were examined for both middle schools. A one-way ANOVA indicated CP participants ( $N = 13$ ) at middle school A

Table 5

*Participants' School Attended Effecting Outcomes as Measured by BASC-2 Teacher Report*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>Sig.</i>	<i>d</i>	<i>h<sub>p</sub><sup>2</sup></i>
<b>Adaptability</b>								
Middle School A	31	3.61	10.41	--	--	--	--	--
Middle School B	21	-2.57	6.26	1,50	5.93	0.018*	0.72	0.106
<b>Functional Communication</b>								
Middle School A	31	3.52	9.03	--	--	--	--	--
Middle School B	21	-1.91	6.49	1,50	5.59	0.022*	0.69	0.101
Note: When Test of Homogeneity of Variances met and alpha set at .05.								
Variable	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>d</i>	<i>h<sub>p</sub><sup>2</sup></i>
<b>Social Skills</b>								
Middle School A	31	3.29	10.40	--	--	--	--	--
Middle School B	21	-2.29	5.76	2.48	48.44	0.017*	0.66	0.091
<b>Study Skills</b>								
Middle School A	31	4.25	6.12	--	--	--	--	--
Middle School B	21	-2.71	5.57	4.26	45.72	.000**	1.19	0.259
<b>Adaptive Skills</b>								
Middle School A	31	3.29	7.98	--	--	--	--	--
Middle School B	21	-2.57	4.52	3.37	48.75	0.001**	0.90	0.106
Note: When Test of Homogeneity of Variances NOT met and alpha set at .05. p<.05*; p<.001**								

were not significantly different from their non-CP counterparts ( $N = 16$ ) in disciplinary referrals (CP  $M = 2.31$ ,  $SD = 2.46$  vs. non-CP  $M = 3.13$ ,  $SD = 2.73$ ), detentions (CP  $M = 1.38$ ,  $SD = 1.90$  vs. non-CP  $M = 1.81$ ,  $SD = 2.76$ ) or suspensions (CP  $M = .15$ ,  $SD = .38$  vs. non-CP  $M = .31$ ,  $SD = .60$ ) following the CP intervention. Similarly, CP participants ( $N = 14$ ) at middle school B were not significantly different from their non-CP counterparts ( $N = 10$ ) in disciplinary referrals (CP  $M = 2.50$ ,  $SD = 3.53$  vs. non-CP  $M = 1.10$ ,  $SD = 1.45$ ), detentions (CP  $M = 6.14$ ,  $SD = 4.07$  vs. non-CP  $M = 6.00$ ,  $SD = 5.87$ ) or suspensions (CP  $M = .29$ ,  $SD = .61$  vs. non-CP

Table 6

*Teacher Response Patterns Effecting Study Skills Outcomes as Measured by BASC-2 Teacher Report*

<b>Teacher 1<sup>A</sup> vs.</b>	<b>Other Teachers</b>	<b><i>n</i></b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>Mean Dif<sup>1</sup></b>	<b>Std Error</b>	<b><i>Sig</i></b>	<b><i>d</i></b>	<b><i>r<sub>γ</sub></i></b>
(n=16, M=7.00, SD=4.40)	Teacher 2 <sup>A</sup>	6	3.83	9.17	3.17	2.65	0.24	0.44	0.22
	Teacher 3 <sup>B*</sup>	11	-4.27	4.61	11.27	2.16	0.00	2.50	0.78
	Teacher 4 <sup>A*</sup>	5	-0.60	0.89	7.60	2.83	0.01	2.39	0.77
	Teacher 5 <sup>A*</sup>	4	0.00	5.72	7.00	3.09	0.03	1.37	0.57
	Teacher 6 <sup>B*</sup>	3	-2.00	3.61	9.00	3.48	0.01	2.24	0.75
	Teacher 7 <sup>B*</sup>	2	-2.50	12.02	9.50	4.15	0.03	1.05	0.47
	Teacher 8 <sup>B</sup>	4	1.75	6.29	5.25	3.09	0.10	0.97	0.44
<b>Teacher 2<sup>A</sup> vs.</b>	<b>Other Teachers</b>	<b><i>n</i></b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>Mean Dif<sup>2</sup></b>	<b>Std Error</b>	<b><i>Sig</i></b>	<b><i>d</i></b>	<b><i>r<sub>γ</sub></i></b>
(n=6, M=3.83, SD=9.17)	Teacher 1 <sup>A</sup>	16	7.00	4.40	-3.17	2.65	0.24	-0.44	-0.22
	Teacher 3 <sup>B*</sup>	11	-4.27	4.61	8.11	2.80	0.01	1.12	0.49
	Teacher 4 <sup>A</sup>	5	-0.60	0.89	4.43	3.35	0.19	0.68	0.32
	Teacher 5 <sup>A</sup>	4	0.00	5.72	3.83	3.57	0.29	0.50	0.24
	Teacher 6 <sup>B</sup>	3	-2.00	3.61	5.83	3.91	0.14	0.84	0.39
	Teacher 7 <sup>B</sup>	2	-2.50	12.02	6.33	4.51	0.17	0.59	0.28
	Teacher 8 <sup>B</sup>	4	1.75	6.29	2.08	3.57	0.56	0.27	0.13

Note:  $F(8,43)=4.25$ ,  $p<.05$ ,  $p=.001$ ,  $h_p^2=.442$  \* $p<.05$  <sup>A</sup> = Teachers from Middle School A, <sup>B</sup> = Teachers from Middle School B. Mean Dif<sup>1</sup> = Teacher 1 mean minus Other Teacher means. Mean Dif<sup>2</sup> = Teacher 2 minus Other Teacher means. Alpha set at .05. Teacher 9 (N=1) removed from reporting sample. Effect size correlation [ $r_{\gamma} = d / \sqrt{d^2 + 4}$ ] computed from Cohen's *d*.

$M = .00$ ,  $SD = .00$ ) following the CP intervention. CP involvement had no effect on students' disciplinary behavior as measured by disciplinary referral rate, detentions and suspensions.



## Chapter 4

### Discussion

This study explored the ability of the abbreviated CP program to increase adaptive functioning and decrease maladaptive behaviors in a heterogeneous 6th grade sample based on BASC-2 teacher report and CP student self-report. The results indicated CP participants had significant decreases in Somatization scores compared to the non-CP control group. Students, who somatize, often consume a teacher's time and school resources with their complaints about physical problems. These significant results suggest students who participated in the CP program may have acquired and improved coping skills to manage their stress. Furthermore, it appears their "would be" somatizing behavior did not manifest by alternative means. Anxiety, Depression, Attention Problems and other similar BASC-2 domains also decreased, albeit not statistically significant, in the hypothesized direction. CP students' self-efficacy to manage some of these secondary characteristics of somatization, as well as somatization in itself, is of note.

While many maladaptive BASC-2 domains moved in the hypothesized direction, some adaptive domains also showed promising results. Although not statistically significant, CP participants reported improvements to their Self-Esteem and Self-Reliance, suggesting the development of greater self-efficacy skill sets. Furthermore, CP participants indicated improvements in their Interpersonal Relations, indicating less isolating behaviors and more opportunities for peer connection. Increasing social interaction develops their ability to

accurately encode social cues, self-monitor, appraise the situation and respond more appropriately to it. Ultimately social competence rises, creating less classroom disruptions, diminishing the abuse of school resources (i.e., nurse and counselor visits), while maximizing students' educational gains and improving their social environments.

While the abbreviated CP did significantly decrease Somatization scores, CP involvement did not significantly impact other adaptive or maladaptive behaviors as measured by the BASC-2 teacher report. However having a number of BASC-2 domains moving toward the hypothesized direction was an encouraging finding and warrants further investigation.

This study also hypothesized CP participant improvements to adaptive and maladaptive functioning based on their BASC-2 self-reports. However, both child and adolescent BASC-2 forms showed no significant results at post-testing. While not statistically significant, a number of BASC-2 scales showed some promising directional changes. For example, CP students completing the child BASC-2 version showed a strong decline in their self-reported anxiety levels. Future studies should consider implementing parent BASC-2 form data and/or other observer report forms to increase accuracy of recording changes in participants' functioning. This would minimize some of the inherent difficulties with self-report.

Additionally, this study examined the abbreviated CP program's affect on the childrens' disciplinary data (referrals, detentions, and suspensions). Contrary to what was hypothesized, CP involvement had no effect on students' disciplinary behavior as measured by disciplinary referral rate, detentions or suspensions regardless if the two middle school disciplinary results were combined or examined individually. Despite the lack of significant support for the study's hypotheses, there were also nonsignificant trends in the hypothesized direction.

School differences in disciplinary action taken may explain why greater significance was not found in referrals, detentions and suspensions data. For example, dress code violations and accrual of tardies, both possible referral sources, were one school's particular focal point, whereas students' use of foul language or classroom behavior was the primary referral concern of the other school. Additionally, some referrals led to detentions (possibly suspensions) for one middle school, while the other middle school may have left the behavioral incident as a referral. Conversely, detentions and suspensions may have been unexpectedly affected by these interschool differences in handling the student disciplinary referral process. Even with these study's shortcomings, CP participants' referral rates, detentions and suspensions received appeared to be declining in the hypothesized direction.

Although not hypothesized at the outset of this study, the CP group leader proved significant in improving students' adaptive functioning (Adaptability, Social Skills, Leadership, Study Skills, and Adaptive Skills), while decreasing their maladaptive functioning (Depression, Somatization, Internalizing Problems, Atypicality, and overall Behavioral Symptom Index). Clinically experienced leaders generally had greater success in changing student functioning.

Several comments surface from this finding. First, while CP is a manualized program, each session allowed a group leader's flexibility in delivery. Experienced group leaders may have more readily adjusted and effectively utilized the CP manual. These enhanced skill sets are particularly important for this study, because of the time restrictions placed on individual sessions. CP meetings only occurred once per week during students' lunch period, which averaged 30 to 45 minutes based on school schedule. This forced group leaders to move quickly and deliver the weeks' CP information succinctly.

Secondly, the regular collaborative group leader meetings were important. These meetings enabled the more novice leaders to learn and develop their own skills. Additional educational opportunities and group leader trainings would enhance CP's impact on its participants. This may be particularly important in communities where experienced clinicians, educators and mental health resources are limited due to geographical local or school financial constraints. In rural areas, for example, adolescents generally face higher incidence rates of depression, suicide and substance abuse, while conversely their region provides fewer resources to address these and other psychological issues (American Psychological Association, 1999; Campbell, Kerns, & Patchin, 2006; Fingerhut & Gunderson, 1995; Foxhall, 2000). Utilizing clinically trained and experienced group leaders can more positively impact student outcomes. Based on BASC-2 teacher reports received, this present study supported the notion that clinically experienced leaders generally have greater success in changing student functioning.

Another unexpected finding also stemming from the teacher reports suggested that one particular middle school showed greater CP student improvements. One prominent explanation is the study's most effective CP group leader was from this middle school. Additionally, this school also housed two teachers reporting significant student adaptive and maladaptive functioning improvements as compared to other reporting teachers. Likewise, the middle school that showed "less CP success" had several teachers suggesting students (regardless if they were CP or not) deteriorated in their adaptive and maladaptive functioning at the study's end.

This brings to the forefront the confounding variable of teacher effect. CP relies heavily on open communication between CP group leaders, students and parents with the students' teachers. Teachers monitor and report upon CP participants' weekly goals and other issues. From a quality EST intervention standpoint these features are critically important, however creating

and implementing a research design void of all participant expectations of the CP intervention is complicated. Unfortunately this limitation occurred within this study and future research should consider running a more “blind” participant CP program evaluation.

This study’s small sample size prevented greater generalization. A larger sample size, including greater ethnicity, geographic and social-economic diversity would allow for broader generalization of results.

Additionally, like other similar interventions, CP relies heavily on parental involvement. Future research should continue focusing on improving this component. Budget constraints prevented parental financial incentives from being offered for this study (i.e., bus passes, gas or grocery gift cards). Therefore sparse parental involvement occurred throughout the study. Multiple attempts at organizing parent group meetings proved unsuccessful. Parent attendance at these meetings was non-existent. Similar parental involvement difficulties appeared to occur throughout the at-risk intervention literature, including previous CP studies (Lochman et al., 2007; Lochman & Wells, 2002). Regardless, this study found CP participants improved despite the lack of parent participation.

Although this study did not demonstrate the robust effect like that of the two-year CP program studies, it still showed some significant improvements in children’s functioning. Such outcomes only further reinforce that implementing an efficacious, age-appropriate, school-based and empirically supported intervention like Coping Power may benefit students.

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Appendix A

Teacher Report BASC-2 Somatization Scale Items

Appendix A

Teacher Report BASC-2 Somatization Scale Items

Adolescent Form:

- 3. Visits the school nurse.
- 14. Complains of shortness of breath.
- 28. Has headaches.
- 31. Is afraid of getting sick.
- 42. Gets sick.
- 56. Complains about health.
- 84. Complains of pain.
- 112. Has stomach problems.

Child Form:

- 6. Complains about health.
- 27. Has headaches.
- 34. Visits the school nurse.
- 55. Has stomach problems.
- 62. Has fevers.
- 83. Complains of shortness of breath.
- 90. Complains of pain.
- 111. Is afraid of getting sick.
- 139. Gets sick.